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ENTREPRENEURSHIP AND THE INTERNATIONAL DIFFUSION OF INNOVATIONS IN MANUFACTURING: A GENERAL APPROACH

by
LUIS SUAREZ-VILLA *

I. *Introduction*

The rapid international diffusion of innovations in manufacturing has become one of the most significant economic traits of our times. Extensive knowledge of advanced organizational and production techniques is now commonplace in nations that had scarcely industrialized over two decades ago. This has led to an international division of labor in manufacturing, where nations that have historically fostered and protected entrepreneurial innovation have become the motive force of international economic expansion. At the same time, many newly industrializing nations with significant comparative advantages in labor costs, markets, or transport costs have eagerly attracted new industries serving international markets.

The significance of entrepreneurial innovation in promoting these developments has not always been adequately acknowledged. More often than not, entrepreneurship has been treated in highly fragmented ways that have focused on such aspects as corporate organizational strategies, R & D diffusion, or investment propensities. While such studies have yielded very significant insights on the questions and issues that they have researched, broad perspectives on the role of entrepreneurial innovation in the international division of labor have been conspicuously missing.

A broad approach to the role of entrepreneurship must necessarily consider the motivation of economic achievement as one of the central "micro" components of Schumpeterian entrepreneurial innovation. Economic systems where such motivation has been historically hampered have tradi-

* Program in Social Ecology, University of California at Irvine, Irvine, California (U.S.A.).

tionally lagged behind those of nations where economic achievement motives have been acknowledged, through the institutionalization of incentives, ownership rights, and accessibility to new knowledge. The outcomes of industrialization strategies in the prevailing global economic systems have, in this sense, provided significant evidence of varying national innovative capabilities and roles in the international division of labor. Such capabilities are, in turn, related to a range of entrepreneurial roles where innovation is indeed not only possible, but necessary. Shortfalls in the availability of any one of these aspects have not only traditionally created major imbalances in the patterns of industrialization of many nations, but have also hampered the very process of industrialization and economic development.

This paper will attempt to relate the broad and most significant aspects of the entrepreneurial function to the process of Schumpeterian innovation by considering its role in the international division of labor in manufacturing. The broad elements of entrepreneurship will be defined in Section II on the basis of a concise survey of the historical literature. Section III will then relate this definition to the role of innovation in each of the various elements in prevailing national economic systems and the more significant industrialization strategies. The diffusion of entrepreneurial innovations will then be related to the international division of labor in manufacturing in Section IV, by considering their diffusion from a dynamic and process-oriented prospective. Section V will then provide an overview and evaluation of the relationships and processes discussed in the previous sections.

II. *The Entrepreneurial Function - A Broad Perspective*

While technological innovation has attracted much attention in recent times, its relation to the broader and very significant question of entrepreneurship has remained considerably neglected in the economic literature. Such neglect has indeed been one of the most pervasive features of the orthodox economic paradigm. An emphasis on unrealistic behavioral principles, compounded by Walrasian static analysis, and by equilibrium and optimization assumptions, have tended to view entrepreneurial activities as automatic, if not downright trivial [1]. This bias has also been significant in the economic development literature, where its "macro" approach, based on national income accounting, has all but completely ignored the role of entrepreneurship as the most important factor in development. To a great extent,

[1] A significant discussion of these shortcomings, based on the neoclassical approach, is in BAUMOL (1968, 1983).

this neglect has been part of the Keynesian legacy and its emphasis on economic aggregates [2]. At the same time, the study of economic development, whether macro or micro, has depended greatly on the study of flows, where entrepreneurship can only be considered as a stock variable.

It is interesting to note that a recent survey of 25 general works on economic development, many of them textbooks, found that while several of them contained a section or chapter on entrepreneurship, the ideas developed in those sections were, for the most part, not applied in other chapters [3]. At the same time, their treatment of export promotion and industrialization policies has not considered the impact of shortfalls of entrepreneurial skills in the implementation of such strategies. This neglect has, for example, also become obvious in our prevailing ignorance of the obstacles and frictions that interfere with entrepreneurial opportunities. Institutional obstacles that arise both from divergent economic interests and established inertia have thus been important obstructions to economic growth and innovation. Obstacles related to a lack of skills and knowledge, along with the effort required to overcome the little noticed but important friction of space and distance, especially in international and interregional trade, have also been greatly ignored.

Clearly, a definition of entrepreneurship that focuses only on technological innovation is insufficient to consider the myriad of other innovative activities and roles that are part of the entrepreneurial function. Only when entrepreneurship is differentiated with respect to its various economic and innovative roles can it be expected to provide adequate insights on its effects on the processes of industrialization and economic change. Although a precise definition of entrepreneurial roles has not emerged, the historical literature on this topic has revealed diverse facets that can be used to develop a comprehensive typology [4].

Capital investment and accumulation, and the inherent risk involved, has been the oldest and most common role ascribed to entrepreneurship. This definition can be historically traced to Cantillon's eighteenth century conceptualization of the entrepreneur as the bearer of non-insurable risk. It became enshrined in economic thinking after Adam Smith's mercantilist

[2] See, for example, GIERSCH's (1984) provocative account of the Schumpeterian paradigm and its relation to current and previous trends.

[3] See LEIBENSTEIN (1985); the same pattern was found in discussions with economists who teach courses on economic development.

[4] Some discussion on the need to approach entrepreneurship from a broad, multidisciplinary perspective has emerged in the literature from time to time. See, for example, GIERSCH (1984), KILBY (1971), REDLICH (1966), SUAREZ-VILLA (1987).

interpretation of entrepreneurship as the provision and accumulation of capital, to the exclusion of other possible roles, a legacy that was later adopted and expanded upon by Marx and, in our own time, by the neoclassical paradigm. Almost half a century after Smith, Say provided a distinction between investment and organizational decision-making that was largely ignored for over a century, but would be made more explicit by Schumpeter's well-known differentiation between innovative and routine decision-making.

A second but less common role assigned to entrepreneurship is that of managerial or productive coordination. After Say's contribution, noted above, Marshall equated entrepreneurship to the coordinative role by regarding it as the fourth factor of production. Contrary to the opinion of some scholars, however, Schumpeter did not exclude the potential for innovation from this role, inasmuch as he regarded the development of new organizational forms to be a major component of the innovative process. This role was also related to the process of economic development when, in the 1950s, Harbison (1956) observed that managerial and organizational capability were the most scarce skills in less developed economies. Then, since the 1960s, the coordinative role has attracted significant attention through Leibenstein's (1968, 1978) *X*-efficiency conceptualization that focuses on organizational motivation as a major factor in economic change [5]. The coordinative role becomes most obvious in the *X*-efficiency paradigm through the definition of "input completing" activities, where the ability to obtain and use factors of production that are not well marketed is most seriously tested. For such factors, markets may not even exist, and prices will not usually yield the necessary signals required to anticipate quality or performance levels. Such commonplace activities as the adaptation of production processes to allow the employment of less skilled labor, or the restructuring of production tasks to implement a new productive process, are familiar examples of this element.

The Schumpeterian focus on innovation attracted increasing attention to a third major component of the entrepreneurial function: invention. Schumpeter's (1934) implicit, yet well-known distinction between process and product innovation basically equated the latter to the type of experimentation and discovery that is now commonly associated with corporate R & D and individual inventiveness. Nelson and Winter (1982) have been the most recent and best-known exponents of this approach, focusing on one major

[5] A major argument for this approach is based on SOLOW's (1957) finding of a substantial residual (87.5 percent), left unaccounted for by labor and capital in the production function specification.

and very significant aspect of invention, corporate R & D and its effects on economic change. Their extension and conceptualization of this aspect of innovation as an evolutionary process, rooted in natural selection mechanisms, have extended and enriched the Schumpeterian paradigm and its dynamic underpinnings [6].

A fourth major component of entrepreneurship that is much related to organizational form, structure and size is that of strategic planning and decision-making. This role can also be related to Schumpeter's broad perspective on innovation through the very direct effect it exercises on such activities as the creation and opening of new markets and sources of inputs. The evolution of this role can be traced to the historical development of industrial organizations as they changed from being primarily single product-single function enterprises to single product-multi function and finally multi product-multi function organizations. Chandler and Redlich (1961) and Chandler and Daems (1980) have related this typology to the geographical expansion of markets of industrial enterprises as these evolved from serving primarily local or regional markets to multi-region and to national and international markets. This role has, in this sense, a substantial and explicit linkage to the international diffusion of entrepreneurial innovations through the decision processes it activates.

At a microbehavioral level, the strategic planning role can also be related to McClelland's (1961) elaboration of the "n-Achievement" (need for achievement) concept in its implications for risk-taking and decision-making. Because strategic decisions often affect substantially all of the other entrepreneurial roles, at least insofar as corporate organizations are concerned, its significance for entrepreneurial innovation and diffusion cannot be underestimated. More recently, Leibenstein's definition of "gap filling" activities in the *X*-efficiency paradigm is also central to this role, through the identification and coverage of market deficiencies and opportunities it exercises [7].

Finally, the connection of distinct markets is yet another role that has received substantial attention in modern times. Hirschman's (1958) contribution, viewing entrepreneurship as central to the creation of forward and backward linkages in manufacturing industries, was very significant in this respect. This view was also quite compatible with Schumpeter's perspective on the opening up of new markets or sources of inputs as major elements of

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[6] See also GREENFIELD and STRICKON (1981).

[7] Examples of "gap filling" provided by LEIBENSTEIN (1968) are the search, discovery and evaluation of economic opportunities and information, marshalling financial resources for the enterprise, and translating these into new markets.

innovation [8]. Leibenstein (1978) has also expanded significantly on this role, considering it as a major outcome of entrepreneurial motivation in the *X*-efficiency paradigm.

III. *Entrepreneurship in the International Economy*

The various economic systems found in the world today provide different institutional contexts in which entrepreneurial roles find their societal expression in greater or lesser ways. Comparative international studies have long pointed out differences in incentive structures for industrial enterprise as major determinants of economic change and industrialization [9]. As early as the eighteenth century, for example, Adam Smith observed a faster rate of technological development in Britain, as opposed to France, believing fewer institutional constraints in the former to be a major cause. Marx, in his critique of capitalism, noted the rapid development of innovation as a major vehicle of entrepreneurial adjustment and survival in the industrializing economies. Later, Schumpeter considered the formation of industrial oligopolies in the advanced nations to be major vehicles for product and process innovation, providing a competitive international edge for some economies.

A typology of world economic systems must necessarily simplify many differences in order to arrive at a workable synthesis of their major characteristics. Three major economic system typologies, classified according to their outlook on international trade and investment, will be covered in this article. These are the "open" or Schumpeterian economies, the "protected" or regulated Keynesian economies, and the "closed" or centrally planned economies. Each of these categories will, in turn, be subdivided into advanced and less developed components. Giersch's (1984) discussion of the Schumpeterian perspective on world economic systems has been quite helpful in this respect. The aim here will therefore be to provide a concise discussion of the more important characteristics of these systems and their relationship to the innovative entrepreneurial roles and industrialization strategies.

The advanced Schumpeterian economies have unquestionably been those where the most significant entrepreneurial innovations have been produced over time. A very distinctive feature of these economies, over others, is their nurturing of the inventive entrepreneurial role. It is therefore not surprising that these are where the individual economic achievement

[8] The Austrian school's emphasis on market processes and the role of information may also be related to this role. See HAYEK (1959) and KIRZNER (1979).

[9] See NELSON (1984).

motive is best understood and protected, through such institutional mechanisms as patent laws and individual and corporate property rights. Innovations in productive coordination and strategic planning are also distinguishing features of these economies, especially in the relatively newer and more technological industries, and in those serving multiple international markets. Industrialization in these systems has developed by serving both export and domestic markets, but placing more emphasis on the former. In the international division of labor, the advanced Schumpeterian economies have therefore been the locomotives of growth, diffusing innovations in a life cycle-type pattern toward the other economic systems. Capital and knowledge resource transfer toward the less developed countries from nations such as the United States and Japan have, for example, been very significant in promoting economic growth in the latter while aiding capital formation in the former.

Advanced Keynesian economies exhibit relatively high degrees of regulation, with significant levels of protectionism and institutional rigidities. Large public sectors have in many cases attempted to take over the individual and corporate inventive role, usually with little or limited success. Given the institutional constraints on entrepreneurship, government-financed deficits have often substituted indigenous and foreign private investment as major sources of growth. Clearly, then, a much more limited inventive role and potential than that found in the advanced Schumpeterian economies is a major distinguishing feature of these economies. At the same time, capital markets supporting the investment role are likely to be less developed than those in the advanced Schumpeterian economies. Industrialization in these economies has often been helped by significant competitive and trade barriers and, in some cases, by a process similar to, but not as comprehensive as, import substitution. In varying degrees, most of the economies of Western Europe fit well into this typology.

The less developed Schumpeterian economies are characterized by rapid imitation and adoption of entrepreneurial innovations diffused from the advanced Schumpeterian economies, especially in industries where significant productive comparative advantages can be found. In this context, industrialization usually occurs through massive foreign investment and the establishment of free-trade manufacturing export enclaves. Export oriented industrialization, comprising assembly-type but also capital goods manufacturing, is therefore most important, while industries that primarily serve domestic markets are protected or maintain low priority in development and incentive programs. These economies significantly excel, first, in the productive coordination role, especially where manufacturing processes have to be

adapted and modified to operate with less skilled labor. The inventive and investment roles are usually missing or are relatively insignificant, while strategic planning is limited to the operations of domestic industries or corporate groups that become major exporters. Intermarket connection can, however, be significant, especially where natural resource-related forward and backward linkages can be "filled in". In this respect, the industrialization of South Korea, Singapore, and Taiwan is compatible with the assumptions of this typology.

Less developed Keynesian economies are characterized by high levels of regulation, protectionism, and institutional rigidities that are in many cases more extensive than those of the advanced Keynesian economies. Very often, expanding government deficits that enabled the state to become a major entrepreneur and a substitute for indigenous and foreign entrepreneurship, though usually less efficiently so, have been financed through foreign debt. It is therefore not surprising that some of the nations that today have the largest debt balances, such as Brazil, Mexico and Argentina, for many years followed policies that are typical of this typology. Widespread import substitution, in some cases combined with highly regulated foreign investment in capital goods or technologically advanced industries, has been the most common industrialization strategy over the past four decades. Intermarket connection has been a significant entrepreneurial role in these economies, developing linkages between indigenous natural resources, capital goods, or consumer-oriented industries [10]. In many cases, and more so than with any other entrepreneurial role, intermarket connection has greatly aided the development of export capabilities. Strategic planning has also been significant in some cases, helping state-owned enterprises and private corporate groups to develop their connective role and their domestic and international market expansion. The economies of many nations in Latin America, and others in Asia, Africa and the Middle East, are compatible with this typology.

The entrepreneurial roles have been most conspicuously taken over by the state bureaucracies in the advanced centrally-planned economies. It is also here that the tradeoff between redistribution and innovation becomes most obvious, through the constriction of the private economic achievement motive. Perhaps, to a great extent, the lack of understanding of this basic human motivation dates back to Marx's own ignorance of it, and to the undeveloped state of behavioral science in his time. At the same time,

[10] The very significant effects of social structures and processes, such as those related to status withdrawal and ethnicity in the development of this role in less developed economies, have been documented by HAGEN (1962), COLE (1949) and GLADE (1983).

highly dogmatic interpretations of the Marxian paradigm have encouraged and perpetuated the institutional rigidities of these economies in the state's exercise of the entrepreneurial roles. These roles are therefore executed by technocratic elites functioning within the political bureaucracy rather than by risk-taking, autonomous private entrepreneurs. Innovative advances in these economies are usually very much related to the process of diffusion from the advanced Schumpeterian economies, though the imitation effect is seldom acknowledged [11]. The connective entrepreneurial role of the state then becomes most significant for long term industrialization, through the development of forward and backward linkages, whenever significant natural resource endowments are available. As such, self-sufficiency becomes a major aim, implemented through long term multi-annual planning and the development of capital goods industries, in a process that is very similar to import substitution.

In less developed centrally-planned economies, the institutional mechanism of their more advanced centrally-planned counterparts are, for the most part, pervasively imitated. Redistribution of wealth through vast and often violent processes of political and socioeconomic change is very effective in originally providing access to development for the poorest segments of the population. These changes, in turn, lead to the statification of the entrepreneurial roles and to much of the same, if not worse, institutional rigidities found in the advanced centrally-planned economies. A major issue for the industrialization of these economies is the availability of natural resources that can be marshalled by the central planning apparatus. The lack of such resources virtually ensures their perennial dependence on their more advanced centrally-planned counterparts. When combined with self-sufficiency objectives and the lack of significant export orientation, this situation can lead to a permanent stage of pre-industrialization where production and consumption are maintained at a subsistence, though well distributed, level.

Significant transformations in any of these economic systems are more likely to occur through institutional changes that allow greater or lesser private entrepreneurial participation and innovation, while providing greater access to the process of international diffusion. Thus, for example, major institutional restructurings in China during the 1980s and in Yugoslavia in the 1960s, produced a shift of these national economies from the ranks of the less developed centrally-planned toward those of the Keynesian less developed. Recent trends in some advanced Keynesian economies during the 1980s can also produce a tendency for those nations to move toward the

[11] See, for example, LEVINE (1983) and BERLINER (1976).

institutional structures of the advanced Schumpeterian, though such processes are long-term and uncertain in character and outcomes.

IV. *The International Diffusion of Innovations*

The diffusion of entrepreneurial innovations has produced an unprecedented internationalization of capital markets and technological knowhow in the western economies. This has resulted in, and been aided by, quantum improvements in communications infrastructure and information technology that have brought various forms of industrialization within reach of the least developed and most remote nations. At the same time, advances in organization and the fragmentation of production processes have produced a more distinct international division of labor in manufacturing by allowing some processes to be more selectively tailored to the advantages of individual nations. Industrialization has therefore become the prime vehicle for the diffusion of entrepreneurial innovations in a world where international linkages in manufacturing are less bound by the friction of distance or the availability of capital.

Product and process diffusion in manufacturing have become the means through which entrepreneurial innovations are transferred from the advanced Schumpeterian to the other economic systems. Industrialization strategies have either advanced or retarded this process, depending on comparative advantages, by determining the timing and rate of adoption of innovations in each nation's industrial structure. This has, in turn, shaped the various national roles that are found today in the international division of labor in manufacturing. It is therefore not surprising that a historical analysis of industrialization has shown some strategies to have virtually ensured a perennial "latecomer" status for nations whose natural and human resource endowments could have guaranteed a more innovative role in the international economy [12]. At the same time, however, similar strategies have assured many poorer nations a significant role in the international division of labor in manufacturing where a very limited one might have otherwise occurred.

Product innovation and development have been traditionally conceptualized as life cycle-type phenomena with distinct phases of invention, growth, maturity, and decline [13]. Strong sales and service efforts have been considered most important in product development. Demand-side preferences

[12] See, for example, DIAZ-ALEJANDRO (1970) and KURTH (1979).

[13] See VERNON (1966, 1970) and HIRSCH (1967).

are therefore crucial in determining the life cycle span of a product, along with the relative amount of investment devoted to invention and research, and the degree of patent protection afforded by institutional mechanisms. In contrast, for process innovation, Nelson (1984) found secrecy to be more important than patent protection in preserving appropriability. Also, the complex nature of process innovations makes them harder to decipher than product innovations, where advances are usually embodied and can be more easily analyzed and imitated. For this reason, product innovations may be assumed to diffuse faster than process innovations. Patent protection for process innovation was therefore found by Nelson to be important in only a few industries, such as chemicals, pharmaceuticals, and in simple mechanical technologies. For manufacturing processes, the contribution of equipment suppliers was also found to be much greater than for product innovation in promoting invention and development.

In a life cycle model of product innovation and development, some entrepreneurial roles may be expected to be more significant than others in the various phases of change (see Table 1). A look at entrepreneurial performance through the various functions of an enterprise would, for example, reveal individual or corporate inventiveness to be a crucial role during the first phase of product development. Risk-taking is an essential element of this phase, and its degree of success will determine whether a new product will be marketed at all. An invention that results in a patent may not

TABLE 1.

ENTREPRENEURSHIP AND PRODUCT INNOVATION AND DEVELOPMENT

	Phases			
	I	II	III	IV
R & D	Invention (individual/ corporate)			
Finance		Investment		
Marketing		Strategic Planning		(Strategic) Planning)
Production			Coordination	Coordination

necessarily translate into a new product, however, as investment and marketing capabilities do not always follow automatically. More often than not, inventions that are patented are never developed because the follow-up entrepreneurial roles required are not available, or because substantial investment in products that accomplish a similar function has already been made. Also, although corporate R & D does account for the majority of product innovations, the role of small businesses bas been important in some industries, such as electronic computing [14]. Clearly, then, substantial and sustained long term aggregate activity in this phase of the product cycle is essential for economies such as the advanced Schumpeterian, where innovation diffusion and export orientation are significant aspects.

The investment and strategic planning roles are then essential during the subsequent phase of initial production, where meeting the rapid growth in demand and productive capacity is crucial to maintain appropriability and the benefits of a headstart. Strategic planning will be especially important in developing marketing strategies to take advantage of, and increase, market demand. Well developed capital markets in the advanced nations are essential to channel investment in this phase, and can actually help diffuse some manufacturing operations to less developed export-oriented economies, such as the less developed Schumpeterian, where substantially lower labor costs can provide significant comparative advantages. In some of these economies, as in some advanced Keynesian economies, imitation of product innovations can have a significant effect in reducing the original inventor's headstart in international markets, while serving substantial domestic markets. At the same time, however, imitation from corporate competitors in advanced Schumpeterian economies can also introduce significant market competition and reduce headstart. Large market size can, in some cases, act as a powerful inducement for major corporate actors to diffuse product innovations to less developed economies with import substitution strategies, especially if significant competition arises in the original markets during this phase. The rapid introduction of the computer electronics industry in Brazil has been a significant example of this strategy. In such cases, the far reaching effects of the strategic planning role in major corporate actors cannot be underestimated.

Productive coordination is a significant entrepreneurial role in the mature and declining phases (III-IV) of the product cycle (see Table 1). The adaptation of productive processes to accommodate less skilled labor or

[14] See JEWKES et al. (1969) and NELSON (1981).

greater automation, often combined with significant difficulties in labor-management relations, are a major challenge.

Competitive pressures usually act as major catalysts of this role, as firms strive to adjust and survive relative product obsolescence. A tendency in the literature to think of this role as being merely "routine" is quite unjustified, however. At a microbehavioral level, the possibilities for innovative behavior, on the part of both labor and management, are usually not as limited as some would think, if the proper incentives and motivation exist. It is also during the mature phase that significant diffusion of product innovations toward less developed nations usually occurs, in both consumer durables and in capital good industries [15].

Significant differences in patterns of product decline during the last phase of product development have been documented in the management literature. The demise of a product may, in this sense, be as much due to innovations that render it less effective as to changing exogenous conditions that require a different application. At the same time, opportunities for product differentiation also exist, especially in oligopolized industries where resources for innovation are likely to be available only to the existing corporate groups. Whenever product differentiation occurs, the strategic planning role becomes essential again, though not as crucially as in the second phase, as possibilities for significant market expansion are usually more limited. In this context, strategic planning attempts to increase short term market share for differentiated products by pursuing aggressive marketing strategies in both domestic and international markets.

These patterns of product change are underlain by a concurrent though different temporal dynamic in the processes that are applied to manufacture any given product. A process' life cycle may therefore be assumed to span over several phases of process innovation and development, and encompass one or more product cycles (see Table 2 and Figure 1) [16]. Process innovations have been traditionally considered under the general rubric of "technology", but a review of the various entrepreneurial roles involved in process life cycles should reveal many other opportunities for innovation. The design of organizational structures to accommodate a new productive process or to make it work more effectively is one such example. This, and the fact that process developement often requires new ways of making decisions,

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[15] Applications of the product cycle at the subnational level have also shown significant diffusion toward less developed regions in advanced nations. See, for example, HANSEN (1979) and THOMAS (1975).

[16] See, for example, ABERNATHY and TOWNSEND (1975), HAYES and WHEELWRIGHT (1979), and SUAREZ-VILLA (1983, 1985).

TABLE 2.

PROCESS INNOVATION AND THE ENTREPRENEURIAL ROLES

	Phases					
	A	B	C	D	E	F
R & D	Invention					
Finance		Investment	Investment			
Marketing		Strategic Planning				
Production					Coordination	Coordination
Interfirm/Interindustry			Intermarket Connector	Intermarket Connector	Intermarket Connector	

planning corporate activities, facilitating investment or a new process' access to capital markets, require a much broader definition of innovation than is afforded by the usually narrow visions of technological invention. Also, technological invention itself often requires new modes of self-organization on the part of individuals and units searching for ideas and new combinations. Similarly, such "micro" yet significant innovations as developing new negotiating strategies to acquire or merge with other firms to achieve greater vertical or horizontal integration, devising new forms of work organization, supervision, or workforce participation in quality control, are usually ignored by the orthodox focus on "technology" as the source of process innovation.

Process innovations must therefore be thought of in broader terms than product innovations, since they often represent whole "new ways of doing things" that are complex and cannot be embodied in any given product or commodity [17]. Also, the revolutionary implications that such innovations have for the structure of any economy as well as for many "micro" aspects related to the workplace, to managing and investing, among others, cannot be ignored. In this sense, process inventiveness in the advanced Schumpeterian economies becomes a crucial entrepreneurial role not only for these economies but also for the global growth and diffusion of manufacturing. Since the vast majority of process inventions today occur through corporate actors, this role can be most closely associated with the modern corporate R & D function.

[17] The advantage of a headstart, especially in semiconductors, computers, and aerospace manufacturing, and advancing down the learning curve, have been found by NELSON (1984) to be most important in preserving appropriability for both process and product innovations.

As with the product cycle, and for very similar reasons, the strategic planning and investment roles are crucial during the second phase of the process cycle. Innovative strategic planning can, however, be expected to include a broader range of activities, with deeper implications for medium and long term firm survival, than with product innovation and development. This can include all the logistics of planning the various product lines to be generated and the markets to be targeted, deciding on the geographical distribution of branch operations or subsidiaries and the division of labor of each within the firm's scope of activities, and promoting the firm's abilities to marshall and manage financial resources.

A third phase of process innovation and development then involves investment as a crucial role in increasing the capacity and outreach of process activities and output (see Table 2). A need for greater vertical integration and coordination with suppliers and customers may also require intermarket connection to play a major innovative role during this and the fourth phase of process development. At the same time, during the third phase, significant diffusion of process knowhow can be expected to occur, first, to less developed export-oriented economies (less developed Schumpeterian), especially in industries manufacturing consumer durables or involved in significant assembly of these products. The rapid diffusion to, and development of, electronics manufacturing in several Asian nations and, particularly, South Korea, is a significant example of this phenomenon. Such diffusion can become more significant during the fourth phase for economies involved in significant import substitution, whether in capital goods or consumer durables manufacturing and, to some extent, in those natural resource-related industries where preliminary processing capabilities are being expanded. The industrialization and adoption of innovations in nations such as Brazil, Argentina and Mexico are major examples of this development.

The international diffusion of process knowhow during the fourth and fifth phases (D, E) of the process cycle has been a subject of much attention in recent years. Grunwald and Flamm (1985), for example, assign a very important role to labor costs in attracting assembly-type processes to less developed nations. Cost advantages in this area must, however, be offset by any additional transport costs incurred in shipping products to markets in the advanced nations. Nations with potentially large markets for any of these products where substantially lower labor costs can offset any additional transport and transaction costs, can therefore enjoy a much more significant advantage than nations with smaller potential markets. This has been obvious in the case of Brazil, where potential market size and lower labor

costs were significant for its industrialization under its import substitution strategies of the 1940s through the 1960s. A turn towards intensive export promotion in the 1970s and 1980s then allowed it to continue expanding its domestic industrial production while using its labor cost advantage in manufactured exports, especially in consumer durables, machinery, and transport equipment.

Intermarket connection can be expected to become a significant entrepreneurial role in the fifth phase of the process cycle, by promoting greater horizontal integration between a firm with an increasingly obsolescent productive process and other, usually service, enterprises with certain medium term stability. This would most likely apply to industries facing significant competition, but may also affect oligopolized industries facing uncertain or highly competitive international markets. The most obvious manifestation of this development is the emergence of conglomerates and increasing rates of acquisitions and mergers involving various sectors [18]. Increasing horizontal integration is also combined in many cases with substantial vertical integration, especially as the limits of the latter are reached, through either institutional or functional constraints.

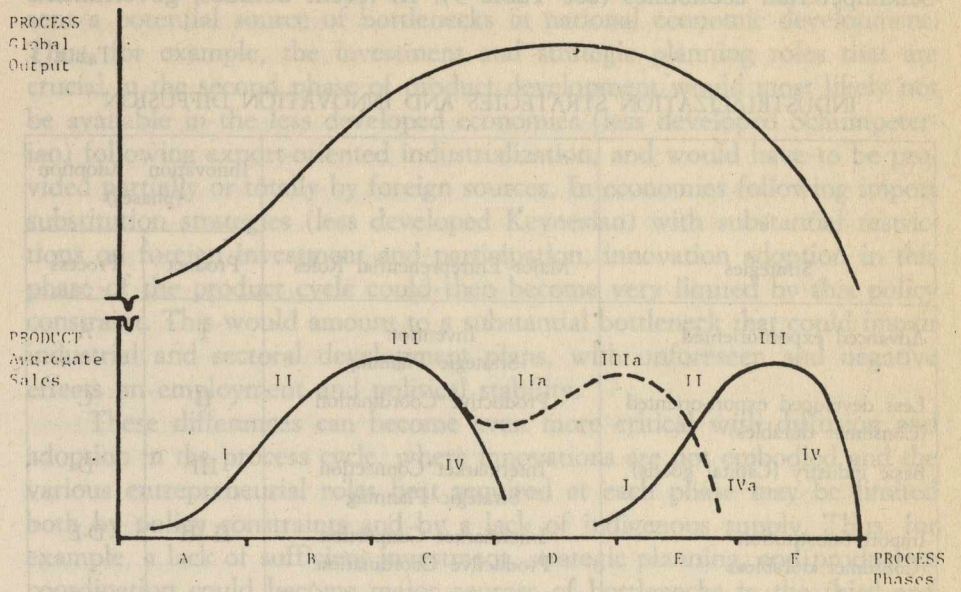
Organizational problems in dealing with labor issues and endogenous-exogenous environmental pressures during the last two phases of the process cycle then ensure a significant role for coordinative entrepreneurship. As with the product cycle, innovation in this role may be found in experimentation with organizational and workforce arrangements that attempt greater participation of the workforce in the productive process, or substitute more machinery for labor. In the case of relocations to lower wage nations or regions, a significant aspect of this role may in fact involve the substitution of less skilled for more skilled labor, or of labor for machinery.

The temporal dimensions of the product and process cycles also reflect differences that are inherent in the scale and complexity of their innovations (see Figure 1) [19]. Product differentiation and its added lease on the life of a commodity is a very common strategy in product development, especially in situations where no distinct or competitive substitute has emerged. In contrast, significant process differentiations have been very limited, historically,

[18] LEFF (1978) refers to these articulations of firms as "groups", although he uses it primarily to refer to vertical integration. This may or may not involve the strategic planning role, depending on whether a firm pursues takeover tactics, or is merely acquired.

[19] GIERSCH (1984) believes the average length of a "Schumpeterian" cycle to span 2-3 decades. This corresponds to the estimated duration of product cycles in many industries. Process cycles could therefore be expected to span a period at least twice as long, depending on the nature of the commodity and possibilities for both product and process differentiation.

FIGURE 1. Process and Product Cycles



since whenever they are feasible, the investment required is generally substantial and their longevity is usually quite uncertain. At the same time, it is obvious that a single but perhaps slightly differentiated process can accommodate more than one product's life cycle and, in some cases, several parallel product lines and their differentiations.

These characteristics have become evident in the various diffusion patterns and adoption rates found in the history of entrepreneurial innovations. The conventional wisdom has been that invention and innovation adoption are influenced by policy strategies designed to emphasize overarching economic objectives such as financing development through foreign exchange (less developed export-oriented strategies), promoting nationalistic self-sufficiency (basic industry and import substitution strategies), preserving territorial integrity and developing frontier regions by exploiting natural resources (preliminary processing of raw material exports and basic industry strategies), or achieving a better distribution of wealth (rural industry strategy). The adoption of any one of these objectives usually involves tradeoffs that are often unforeseen and which also condition the role of any given economy in the international division of labor, sometimes even independently, and much to the detriment of, national comparative advantages.

In this sense, both invention and strategic planning are crucial entrepreneurial roles for export-oriented industrialization strategies in the advanced Schumpeterian economies (see Table 3). In recent decades, governments

TABLE 3.

INDUSTRIALIZATION STRATEGIES AND INNOVATION DIFFUSION

Strategies	Major Entrepreneurial Roles	Innovation Adoption (phases)	
		Product	Process
Advanced export-oriented	Invention Strategic Planning	I	A
Less developed export-oriented (Consumer durables)	Productive Coordination	II	C
Basic industry (Capital goods)	Intermarket Connection Strategic Planning	III	D
Import Substitution (Consumer durables)	Intermarket Connection Productive Coordination	II-III	D-E
Preliminary processing of raw material exports	Intermarket Connection	–	D-E
Small scale rural	Productive Coordination	IV	E-F

have emerged as substantial financiers and supporters of invention in these economies, particularly in defense-related activities. Their support of the commercial competitiveness of these industries, along with the basic and applied sciences and their educational activities, have increasingly accounted for ever larger segments of the national budget. This has mistakenly led some to believe that inventiveness and innovation can be bureaucratically planned, when in fact individual motivation and decision-making remain crucial for these roles. That such motivation may only be supported by institutional mechanisms providing legal and ownership protection is usually ignored by these arguments, as is the fact that innovation in the other entrepreneurial roles is also essential for economic progress. Most, if not all, of those roles can in fact only be innovated upon and developed through the motivational context provided by private entrepreneurial activities and competition, whether individual or corporate.

The most likely phases of product and process innovation adoption

given in Table 3 for each industrialization strategy, and the most significant entrepreneurial roles required by each strategy and by the respective phases of product and process development, are divergent in some cases and represent a potential source of bottlenecks in national economic development. Thus, for example, the investment and strategic planning roles that are crucial in the second phase of product development would most likely not be available in the less developed economies (less developed Schumpeterian) following export-oriented industrialization, and would have to be provided partially or totally by foreign sources. In economies following import substitution strategies (less developed Keynesian) with substantial restrictions on foreign investment and participation, innovation adoption in this phase of the product cycle could then become very limited by this policy constraint. This would amount to a substantial bottleneck that could impair industrial and sectoral development plans, with unforeseen and negative effects on employment and political stability.

These differences can become even more critical with diffusion and adoption in the process cycle, where innovations are not embodied and the various entrepreneurial roles best required at each phase may be limited both by policy constraints and by a lack of indigenous supply. Thus, for example, a lack of sufficient investment, strategic planning, and productive coordination could become major sources of bottlenecks in the third and fourth phases of the process cycle for economies pursuing import substitution, basic industry, and (less developed) export oriented strategies (see Table 3). At the same time, industrialization strategies that best require roles that are dissimilar to those most needed at the process cycle phase where innovation adoption must occur, could compound this problem substantially by increasing unsatisfied demand for the various entrepreneurial skills and knowhow that are not indigenously available.

V. *Summary and Conclusions*

This article has identified five major roles that are essential for understanding the significance of entrepreneurship in the process of innovation diffusion and industrialization. The importance and availability of the entrepreneurial roles are related to the various international economic systems through a brief examination of their structural and institutional potential to provide a motivational context for entrepreneurial innovation. Based on this general analysis, the most common industrialization policy strategies found in any of the various economic systems are then related to the process of

innovation diffusion by considering evolutionary models of product and process development. Some entrepreneurial roles are crucial or more essential than others in any of the given phases of the product and process cycles, and difficulties related to their availability in any economic system can facilitate or retard innovation diffusion. Possibilities for major bottlenecks in any industrialization strategy are then thought to arise whenever substantial divergence and shortages exist between the entrepreneurial roles required by such strategies and those that are essential at the phases of product and process development where innovation adoption occurs.

Clearly, the diffusion process presented in this article is underlain by a global economic scenario that depends on certain conditions for the dynamism of the innovative entrepreneurial roles. The most important of these conditions is the function of unrestricted trade as a vehicle of diffusion, especially between nations with different levels of development. A dynamization of the diffusion process and the competitive expansion of the entrepreneurial roles involved, especially between more and less developed nations, would require a more aggressive export orientation over import substitution for the latter. At the same time, substantial catch-up strategies to absorb and adapt innovations would be necessary on the part of the less developed nations. This would also need to be accompanied by increased resource transfers between more and less developed nations, where the former intensify their status as motive global forces of innovative entrepreneurship, especially in the diffusion of knowledge and investment. For the less developed nations, a more competitive realization of their roles in the international division of labor would be an essential prerequisite.

In such an elitarian context where the diffusion of innovations follows a life cycle type pattern from the most advanced, innovative economies toward the least developed, adjustments in the supply-side are primarily a function of the time required to overcome the structural motivational and institutional inertia. Although Giersch's (1984) assumption that stagnation can only be temporary is quite logical in this context, the domestic and international political complexities involved move well beyond the limited issues of overregulation and property rights. The current economic and political international division of labor has, in effect, created a dual center-periphery hierarchy,headed on one side by the triple center of North America, Japan and Western Europe and on the other by the Soviet Union and Eastern Europe, where decisions on industrialization and development policy strategies may be increasingly beyond the control of national decision-makers, especially in the less developed economies.

In this context of increased globalization of manufacturing and econom-

ic decision-making, a reliance on the functional character of innovation diffusion may become more pronounced, at least within both of the center-periphery hierarchies, but also on the part of the Eastern Bloc nations with respect to the Western advanced innovative economies. As the impacts of entrepreneurial innovations can be more quickly realized through increased globalization and functional adjustment to take advantage of the diffusion process, the structures limiting the availability and development of any of the various entrepreneurial roles can be expected to become more conspicuous, especially as international competitive pressures increase.

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IMPRENDITORIALITÀ E DIFFUSIONE INTERNAZIONALE DELLE INNOVAZIONI NELLE MANIFATTURE: UN APPROCCIO GENERALE

Questo articolo fornisce un'ampia definizione dell'innovazione imprenditoriale basata su cinque importanti ruoli descritti nella letteratura economica. Questi ruoli sono poi messi in relazione ai principali sistemi economici globali e alla divisione internazionale del lavoro attraverso la considerazione del potenziale strutturale e istituzionale di ogni sistema al fine di fornire un contesto motivazionale per la loro disponibilità e sviluppo. La diffusione internazionale delle innovazioni nelle manifatture è considerata una funzione dei ruoli dell'imprenditore, così come la loro disponibilità in ognuno dei vari sistemi economici e le strategie di politica dell'industrializzazione più comunemente applicate. A questo scopo vengono sviluppati modelli del ciclo di vita del prodotto e dell'innovazione di processo per illustrare la dinamica della diffusione e l'importanza di ogni ruolo imprenditoriale in ognuno dei vari stadi dello sviluppo del prodotto e del processo di produzione.

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UN CONFRONTO TRA MODELLI MACROECONOMICI

di
GIORGIO PIZZUTTO *

La situazione della ricerca teorica in macroeconomia segna il passo. Se gli anni settanta hanno visto il ritorno della teoria economica neoclassica e la crisi della teoria keynesiana, sembra che gli anni ottanta debbano trascorrere senza innovazioni di rilievo, mentre vengono lentamente assorbiti nel corpus principale della dottrina i contributi della scuola delle aspettative razionali. Eppure qua e là si levano voci autorevoli [1] che richiamano l'attenzione su molti problemi che la scuola monetaria e la scuola keynesiana come pure la loro sintesi non sono riusciti a risolvere.

Ad esempio le proposizioni più significative della teoria monetaria prestano il fianco a molte critiche. Il permanere di tassi di disoccupazione molto elevati sta ad indicare gli effetti reali delle politiche di stabilizzazione e i costi che si devono sopportare per ridurre in modo significativo l'inflazione. La stessa spiegazione del ciclo economico fondata su di una errata percezione delle informazioni risulta indebolita dalla lunghezza dei periodi recessivi che dovrebbero consentire il superamento dell'illusione monetaria.

La ricerca teorica di ispirazione keynesiana si richiama invece alla distinzione tra prezzi rigidi e prezzi flessibili. Il mercato dei beni e il mercato del lavoro non funzionano secondo il principio della domanda e dell'offerta; a causa della rigidità dei prezzi e dei salari sarebbero le quantità ad assumersi il compito di riequilibrare il mercato. Quest'idea, contenuta in nuce nella *Teoria Generale*, andrebbe ulteriormente potenziata: introducendo modelli con prezzi rigidi e quantità flessibili si potrebbe aprire la strada ad un superamento del monetarismo e della scuola delle aspettative razionali.

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* Università Statale di Milano. Ringrazio Aldo Montesano per aver letto e commentato una prima stesura di questo lavoro; resta naturalmente mia la responsabilità delle tesi che vengono proposte.

[1] Si veda tra gli altri l'ultimo contributo di HICKS (1986).

Senza entrare nel merito di questa linea di ricerca tutt'ora in fase di elaborazione, vorremmo suggerire come le questioni fondamentali potrebbero essere altre. In particolare riteniamo che il modello keynesiano e la teoria della domanda effettiva debbano essere integrati da una teoria della distribuzione del reddito indipendente dalla produttività marginale dei fattori di produzione e da una teoria dei mercati finanziari che spieghi le modalità di finanziamento della domanda.

In questo articolo intendiamo affrontare questi problemi partendo da un confronto tra modelli macroeconomici (par. 1) e sviluppando nei successivi paragrafi un commento a questi modelli che definisca i loro limiti e proponga le opportune modifiche e integrazioni.

1. *Tre alternativi modelli macroeconomici*

I tre modelli che intendiamo proporre condividono alcune ipotesi comuni ma si differenziano per le relazioni che legano tra loro le diverse variabili; i modelli ipotizzano che il sistema economico descritto produca un solo bene che può essere utilizzato come bene di consumo, come bene di investimento oppure come bene pubblico. Si è preferito un'esposizione molto semplificata allo scopo di meglio evidenziare le questioni essenziali che intendiamo discutere.

	I (classico)	II (keynesiano)	III	
Offerta potenziale	$y = f(K,\ N)$	$y = f(K,\ N)$	$y = \bar{y}$	(1)
Domanda di lavoro	$w/p = fn\,(K,\ N)$	$w/p = fn\,(K,\ N)$	$N = f(y)$	(2)
Offerta di lavoro	$N = f(w/p)$	$w = \bar{w}$	$w = w_0 + w_1\,(y - \bar{y}) + w_2 p$	(3)
Domanda effettiva	$Y = C + I + G$	$Y = C + I + G$	$Y = C + I + G$	(4)
Consumi	$C/p = C/p\,(r,\ W/p)$	$C\,(Y,\ W)$	$C = C\,(Y,\ W)$	(5)
Investimenti	$I/p = I/p\,(r)$	$I = I\,(e,\ r)$	$I = I\,(P,\ r)$	(6)
Reddito nominale	$Y = yp$	$Y = yp$	$Y = yp$	(7)
Salari	$fn \cdot N$	$\bar{w} \cdot N$	$w \cdot N$	(8)
Tasse	$T = tY$	$T = tY$	$T = tY$	(9)
Profitti	$P = pF\,(K,\ N) - wN - T$	idem	$P = py - wN - T$	(10)
Tasso di interesse	$S/p\,(r) = I/p\,(r)$	$M = L\,(r,\ Y)$	$(I-P) + (G-T) - bS = aB$	(11)
Prezzi monetari	$M = kpY$	$p = \bar{p}$	$p = p\,(w,\ y - \bar{y}\ \ldots)$	(12)
Base monetaria	$B = \bar{B}$	$B = \bar{B}$	$B = B\,(p,\ u)$	(13)

I primi due sistemi di equazione rappresentano rispettivamente il modello classico e keynesiano, mentre il terzo è una versione semplificata di un modello che l'autore ha proposto in precedenti lavori (si veda ad esempio Pizzutto (1984, 1986).

Il significato dei simboli è il seguente: y = output reale; K = stock di capitale; N = occupazione; fn = prodotto marginale del lavoro; w = salario nominale; C = consumi; I = investimenti; r = saggio d'interesse; p = livello dei prezzi; T = tasse; P = profitti; S = risparmi; hS = quota dei risparmi che finanzia direttamente la spesa dei settori in deficit; p = prezzi monetari; B = variazione della base montaria; a = moltiplicatore del credito. Tutte queste variabili sono endogene. Si suppone inoltre che siano date esogenamente: G = spesa pubblica; W = stock di ricchezza detenuto dalle famiglie; e = efficienza marginale dell'investimento.

2. *La funzione di offerta, l'equilibrio sul mercato degli stock dei fattori di produzione e l'interpretazione neoclassica della rivoluzione keynesiana*

Le esposizioni dei modelli macroeconomici iniziano definendo attraverso la funzione di produzione aggregata il livello massimo di produzione ottenibile utilizzando lo stock di capitale umano e non-umano disponibile.

Nell'ipotesi di mercato concorrenziale e di comportamento razionale (massimizzazione del profitto da parte delle imprese) il saggio di salario reale è uguale alla produttività marginale del lavoro e definisce la curva di domanda di lavoro. Entrambe queste equazioni (1) e (2) sono comuni al modello classico e al modello keynesiano. Nell'interpretazione corrente della *Teoria Generale* (si veda naturalmente Hicks (1937), Modigliani (1944, 1963) come pure i più recenti Sargent (1979) e Parkin, (1984)) la principale innovazione della *Teoria Generale* consisterebbe nella modificazione della funzione di offerta di lavoro del modello classico. In questo modello la funzione aggregata di offerta rappresenta le preferenze lavoro-tempo libero dei lavoratori, mentre il modello keynesiano considera il saggio di salario come un dato esogeno, un parametro determinato da comportamenti passati degli operatori economici oppure da altre variabili non comprese nel modello.

Se questa interpretazione colga davvero il messaggio centrale della teoria keynesiana è perlomeno discutibile come sosterremo in seguito. Interessa invece sottolineare come l'accettazione keynesiana della teoria della produttività marginale conduca a risultati non consistenti con altre proposizioni della *Teoria Generale*. Keynes ha infatti sempre sostenuto che un

aumento dell'occupazione sarebbe stato accompagnato da una diminuzione dei salari reali e che non intendeva rimettere in discussione un caposaldo dell'economia neoclassica quale la produttività marginale dei fattori come base della teoria della distribuzione del reddito. Partendo da questi presupposti si costruisce una teoria dell'offerta di piena occupazione derivata da una condizione di equilibrio sul mercato dello stock dei fattori di produzione: distribuzione del reddito fondata sulla produttività marginale e piena utilizzazione del lavoro e del capitale sono strettamente intrecciati. Se problemi dovessero sorgere dal lato della domanda dovrebbero essere attribuiti a rigidità salariali o comunque ad una mancanza di flessibilità su qualche altro mercato; altrimenti l'effetto Pigou si incaricherebbe di riportare la domanda allo stesso livello dell'offerta potenziale di pieno impiego. In questo senso la *Teoria Generale* è contraddittoria perché contiene una teoria dell'offerta di pieno impiego e sostiene contemporaneamente che il sistema economico può essere in equilibrio di sottoccupazione.

Tale situazione, obiettano ragionevolmente gli interpreti della *Teoria Generale*, è transitoria: nell'ipotesi di flessibilità del mercato del lavoro una diminuzione del salario reale è una condizione sufficiente per ristabilire il pieno impiego.

Se si vuole costruire un modello che contempli la possibilità di un equilibrio di sottoccupazione si deve modificare la teoria dell'offerta e della distribuzione del reddito. Le equazioni (2) e (3) del terzo modello definiscono il saggio di salario in modo indipendente dalla produttività marginale supponendo che sia dipendente in parte dai contratti stipulati nel passato (w_o) e reagisca, inoltre, negativamente ai livelli di disoccupazione e positivamente ai prezzi. In questo senso il comportamento salariale sarebbe prociclico contrariamente alle ipotesi della teoria classica e keynesiana. D'altro lato la domanda di lavoro nel breve periodo dipende essenzialmente dai livelli di attività dal momento che le conoscenze tecniche sono esogenamente date (equazione (2)).

Se si accetta questa impostazione, la teoria della distribuzione assume connotati che almeno in parte sono riconducibili alle analisi di Ricardo e di Marx opportunamente integrate.

Nei modelli dei classici infatti la distribuzione del reddito non dipendeva dal contributo produttivo dei fattori di produzione; in particolare il salario non dipendeva dalla sua produttività marginale e il profitto era un residuo. La flessibilità delle quote distributive e il modo in cui si concretizzava erano gli elementi dai quali si poteva comprendere la dinamica del sistema industriale, il suo sviluppo e le sue crisi. Nel terzo modello che abbiamo proposto tale impostazione è stata ripresa perché consente di dispor-

re di una teoria dell'offerta che non contempla il vincolo del pieno impiego. Nel terzo modello il pieno impiego può essere uno dei risultati ai quali si perviene, non necessariamente il solo.

3. *Un'interpretazione alternativa della rivoluzione keynesiana*

Contrariamente alle interpretazioni correnti di una teoria keynesiana come teoria delle rigidità salariali e della preferenza per la liquidità, si può meglio capire il contributo di Keynes se si osservano le equazioni (5) e (6) del modello classico e keynesiano [2].

La teoria neoclassica riteneva che l'offerta potenziale di pieno impiego fosse assorbita completamente attraverso un particolare meccanismo che regolava la composizione della domanda. Lo stock di fattori di produzione pienamente utilizzati produceva un flusso di beni di consumo e di beni di investimento. I neoclassici ritenevano che fosse il saggio di interesse a determinare in quale misura una società decidesse secondo le sue preferenze di privilegiare i consumi presenti e in quale misura i consumi futuri attraverso gli investimenti. La rinuncia al consumo presente significava automaticamente un aumento della quota dei risparmi reali di risorse che potevano essere trasferite alla produzione di beni capitali.

Si potrebbe obiettare che tale interpretazione sia troppo restrittiva dal momento che nelle funzioni del risparmio e degli investimenti si ritrovano nei modelli neoclassici altre variabili quali ad esempio il reddito e la ricchezza; abbiamo preferito una versione molto ortodossa della teoria del saggio d'interesse per meglio evidenziare le differenze tra i vari modelli.

Il fatto che Keynes abbia sostituito nella funzione del consumo il reddito al saggio di interesse spezza la simmetria del « mercato dei capitali »; o meglio elimina addirittura dal suo modello il mercato attraverso il quale il flusso di nuovi risparmi viene trasferito agli investimenti. La lunga e oscura discussione sulle determinanti del saggio di interesse andrebbe letta in questa luce. Più che sulla parte positiva della teoria della preferenza per la liquidità e del saggio di interesse come fenomeno monetario, la querelle tra Keynes e Ohlin va interpretata come il tentativo keynesiano di sottolineare in modo definitivo che la novità della sua teoria risiedeva nella critica all'idea di un meccanismo automatico e della stessa grandezza che compensasse la riduzione della domanda di beni di consumo con un aumento della domanda di beni di investimento e viceversa.

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[2] Su questa linea interpretativa si veda in particolare GAREGNANI (1979).

La domanda di beni di consumo e di beni di investimento provengono da soggetti diversi e dipendono da variabili diverse. Nella nostra esposizione dei tre modelli abbiamo inteso accentuare queste differenze ponendo nelle equazioni (5) e (6) del modello neoclassico il consumo e gli investimenti come funzioni esclusivamente del saggio di interesse. Nel modello keynesiano e nel III modello invece il consumo dipende essenzialmente dal reddito e dallo stock di ricchezza. L'investimento dipende nel modello keynesiano dal saggio di interesse e dal saggio di profitto atteso, mentre nel III modello la distribuzione del reddito e in particolare i profitti entrano fra le determinanti dell'investimento. È presumibile infatti che un aumento dei profitti correnti aumenti le aspettative di profitti positivi futuri, diminuisca la dipendenza degli investimenti da fonti esterne incrementando l'autofinanziamento, consenta una riduzione dell'indebitamento, etc. Tutti questi fattori contribuiscono quindi ad aumentare la propensione ad investire delle imprese. Le modificazioni introdotte nel modello di Keynes e nel nostro rispetto al modello neoclassico lasciano comunque aperto un interrogativo sulle determinanti della distribuzione del reddito e del saggio di interesse. Se infatti il tasso di interesse non è più determinato dalla domanda e dall'offerta di risparmi si dovrà proporre qualche altra teoria che lo spieghi.

4. *La distribuzione del reddito*

Nel modello neoclassico la distribuzione del reddito è vincolata dalla tecnologia e i fattori produttivi vengono remunerati in concorrenza perfetta secondo le loro produttività marginali esaurendo in tal modo il reddito a disposizione. Keynes accettava questo tipo di teoria anche se in contraddizione con le conclusioni della *Teoria Generale*, ma non pare che il problema della distribuzione fosse al centro dei suoi interessi né tantomeno le interpretazioni correnti della *Teoria Generale* ne tengono conto. Ad esempio il modello *IS/LM* è costruito sul mercato dei beni e sul mercato monetario. Ma non c'è a nostro parere contraddizione tra gli interessi di ricerca di Keynes e quelli di Ricardo il quale aveva indicato la distribuzione del reddito come l'argomento principale di cui doveva occuparsi l'economia politica. È difficile articolare la teoria della domanda effettiva senza occuparsi del modo in cui si distribuisce il reddito nazionale. La distribuzione del reddito influenza le principali variabili che entrano nella funzione della domanda aggregata. Ad esempio non si può pensare che le imprese siano indifferenti al livello dei profitti quando decidono i loro progetti di investimento, sia perché profitti correnti elevati influenzano positivamente le aspettative dei profitti

futuri, sia perché in questa situazione il finanziamento degli investimenti viene favorito e l'indebitamento ridotto. Oppure si può pensare a come una redistribuzione troppo drastica dai profitti ai salari possa dare luogo ad un aumento dei prezzi e ad una politica monetaria restrittiva che causa disoccupazione, riduzione dei salari, una ricostituzione dei profitti e probabilmente un tasso più elevato di accumulazione.

Tutti questi fenomeni non riescono attualmente ad essere analizzati analiticamente proprio perché la teoria macroeconomica non tratta del problema della distribuzione del reddito in modo esplicito e approfondito. Nel modello *IS/LM* l'equilibrio del mercato dei beni e del mercato della moneta è indipendente da come il reddito di equilibrio viene distribuito.

Nel III modello (III.10) abbiamo proposto una teoria della distribuzione del reddito che intende ricollegarsi alla tradizione ricardiana. Secondo Ricardo i profitti erano regolati dalla differenza tra l'offerta potenziale sulla terra marginale e il monte salari, dato dal prodotto tra lavoratori impiegati e saggio di salario. Il saggio di salario oscillava a sua volta intorno al suo valore di lungo periodo fissato esogenamente rispetto al modello; un aumento dei salari determinava nel lungo periodo un aumento dell'offerta di lavoro, che fungeva da elemento stabilizzatore riportando il salario al suo livello di lungo periodo e garantendo profitti positivi fino a quando lo consentivano i rendimenti decrescenti. D'altro lato profitti positivi assicuravano al sistema economico l'incentivo all'accumulazione che si sarebbe risolta nello stato stazionario a causa del vincolo imposto dalla messa a coltura delle terre meno fertili.

Come ha notato Pasinetti (1977), le insufficienze dell'analisi ricardiana risiedono nella sua sottovalutazione del progresso tecnico, nella concezione semplicistica dei meccanismi che regolano la crescita della popolazione e soprattutto nella sua incapacità di distinguere tra offerta potenziale e domanda effettiva come dimostra la sua incomprensione delle obiezioni che gli venivano rivolte da Malthus.

Esiste comunque un elemento centrale dell'analisi ricardiana che andrebbe mantenuto e rivalutato: il profitto inteso come residuo dal punto di vista distributivo la cui spiegazione deve essere fondata sul dato istituzionale dell'esistenza del diritto di proprietà anziché mediante categorie funzionali; e il profitto inteso quale una delle principali variabili che influiscono sul livello degli investimenti.

In questo modo la distribuzione del reddito verrebbe collegata all'accumulazione del capitale sottraendo la teoria dell'investimento all'indeterminatezza dell'analisi keynesiana e all'idea neoclassica che gli investimenti siano la controparte di una rinuncia al consumo da parte della collettività.

A distanza di quasi due secoli dalla comparsa dei *Principi di Economia Politica* molte cose sono cambiate: la divisione in classi della società si è modificata, si è ridotta l'importanza dei proprietari terrieri, mentre lo Stato ha assunto un ruolo rilevante nel controllo e nella redistribuzione delle risorse; tuttavia capire come si determinano i profitti e il ruolo da essi giuocato, significa definire le condizioni di sviluppo, di stagnazione o di declino di un sistema economico.

La teoria della domanda effettiva può contribuire alla costruzione di una teoria dei profitti e, viceversa, una teoria dei profitti e della distribuzione è proprio quello che manca alla teoria keynesiana.

Supponiamo che il reddito potenziale sia un dato esogeno (eq. 1) e introduciamo poi il concetto di reddito effettivo determinato dalla (4). Supponiamo poi che il saggio di salario sia influenzato negativamente dalla differenza tra reddito potenziale e reddito effettivo. Allora i profitti saranno semplicemente un residuo determinato dalla differenza tra reddito di equilibrio e montesalari (eq. III.10). La domanda effettiva stabilisce la grandezza della torta da spartire, mentre il tasso di utilizzazione degli impianti (il che vuol dire il tasso di disoccupazione se non esiste disoccupazione tecnologica) regola la fluttuazione dei salari. I profitti sono quindi un residuo come nel modello ricardiano. La differenza sta nel fatto che è il reddito effettivo e non quello potenziale a stabilire il loro volume complessivo.

Costruire un modello in cui la distribuzione del reddito abbia caratteristiche flessibili e sia indipendente dalla produttività è il necessario complemento alla teoria della domanda effettiva. Questo consentirebbe inoltre alla teoria dell'offerta potenziale di svilupparsi autonomamente utilizzando conoscenze di discipline economiche ma anche extra-economiche ed arricchendo così un settore della ricerca economica che si trova in uno stadio di sviluppo molto arretrato.

5. *La teoria del saggio di interesse*

Il modello III che abbiamo proposto ci consente di chiarire i problemi e gli interrogativi che ritornano ciclicamente nelle discussioni intorno alle variabili che determinano il saggio d'interesse.

È, il saggio d'interesse, un fenomeno reale o monetario? È determinato sul mercato dei prestiti oppure sul mercato della moneta? Che ruolo giuocano gli stock e i flussi di moneta e di attività finanziarie?

Robertson, Keynes e molti altri autori si sono impegnati in dibattiti interminabili senza giungere ad un chiarimento definitivo.

Di teorie alternative del saggio d'interesse si iniziò a parlare dopo la pubblicazione della *Teoria Generale*. Fino a quel momento la teoria tradizionale sosteneva che il saggio di interesse fosse un fenomeno reale, determinato da variabili reali. Secondo la teoria dei fondi prestabili la produttività e la parsimonia sono i fattori che modellano, rispettivamente, la funzione di domanda e di offerta dei prestiti; le variabili monetarie sono neutrali rispetto al mercato dei risparmi.

Nelle analisi più raffinate queste conclusioni non sono immediate. Nel breve periodo infatti un aumento dell'offerta di moneta può indurre una diminuzione del tasso di interesse; ma successivamente i prezzi monetari inizieranno a salire, l'illusione monetaria scomparirà e aumenterà la propensione al risparmio delle famiglie. Il disequilibrio sarà superato nel lungo periodo. È questo l'insegnamento di Fisher e Wicksell. Patinkin ha approfondito questo argomento ricordando come solo in presenza di particolari ipotesi restano valide le conclusioni neoclassiche.

Keynes ha dovuto avanzare una teoria alternativa del saggio di interesse perché partiva dalla premessa che non ci fosse un mercato del capitale capace di equilibrare la domanda e l'offerta di risparmi e questo era implicito nella sua funzione del consumo. Preoccupato poi di non dover reintrodurre l'idea che il tasso d'interesse fosse in qualche modo legato all'equilibrio risparmi/investimenti ha completamente cancellato dalla sua analisi il mercato finanziario, il flusso di domanda e di offerta di credito. Il tasso di interesse sarebbe regolato dalla domanda (stock) e dall'offerta di moneta. Ma la teoria della preferenza della liquidità difficilmente può fondare una teoria del saggio d'interesse dal momento che la funzione di domanda di moneta dipende dal tasso di interesse di lungo periodo (normale) che è supposto come un dato esogeno anziché essere determinato dalla teoria [3].

La teoria monetaria keynesiana può ambire solo a spiegare il grado di liquidità del portafoglio degli operatori finanziari, non certo il modo in cui gli investimenti e la spesa pubblica vengono finanziati e a quale prezzo.

A nostro parere sia la teoria della preferenza per la liquidità che la teoria dei fondi prestabili prestano il fianco a molte critiche. Nel III modello il tasso di interesse (eq. III.11) si determina sul mercato del credito, non sul mercato della moneta; e il mercato del credito non deve essere identificato con la domanda e l'offerta di risparmi.

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[3] Si veda la recente ammissione di Hicks: "He (Keynes) does think that there is something like a normal rate of interest, and that speculators will damp down fluctuations about it. But he does not say much about the way the normal rate is established; he seems to leave it 'hanging by its own bootstraps' as one of his critics said", in Hicks (1986, pag. 13). La stessa critica si trova sviluppata in modo articolato in Garegnani (1979, specialmente pagg. 67-70).

Negare la validità della teoria della preferenza della liquidità non significa, come sostiene Leijonhuvfud (1981), ritornare inevitabilmente ai "classici", a Robertson e Wicksell. Il mercato del credito sul quale viene determinato il saggio d'interesse nel nostro modello non è la stessa cosa del mercato dei fondi prestabili. Chiariamo la differenza dal lato dell'offerta e dal lato della domanda. Nella III.11 l'offerta di finanziamento dipende solo in parte dai risparmi delle famiglie (hS); per il resto l'offerta di credito dipende ex-ante dal rapporto riserve/depositi, ovvero dalle decisioni della Banca Centrale che controlla la base monetaria e la liquidità del sistema bancario e, subordinatamente, dai comportamenti delle banche e del pubblico canalizzati attraverso il moltiplicatore del credito [4].

E solo ex-post si avrebbe l'identità:

$$(I - P) + (G - T) = S$$

dove i risparmi delle famiglie sono in parte stati impiegati per acquistare titoli emessi dallo Stato e dalle imprese e in parte depositati presso le banche, e quindi $S = hS +$ depositi.

D'altro lato anche la domanda di credito non è identica alla domanda di prestiti per finanziare gli investimenti così come viene derivata dalla teoria dei fondi prestabili. Innanzitutto perché buona parte del credito viene richiesto dal settore statale ed è scarsamente influenzabile dal livello del saggio d'interesse.

In secondo luogo una quota delle spese in beni capitali può essere finanziata dai profitti delle imprese e l'autofinanziamento potrebbe essere completo, tale cioè da ridurre a zero la domanda di crediti. Ma la teoria dei fondi prestabili non offre nessuna spiegazione dell'influenza esercitata dal livello dei profitti sulla domanda di credito.

Nell'eq. III.11 il tasso d'interesse è un fenomeno finanziario legato dal lato della domanda al fabbisogno di finanziamento della spesa delle imprese e dello Stato e dal lato dell'offerta ai comportamenti delle autorità monetarie.

Il livello dei tassi di interesse non dipende in definitiva dalla preferenza per la liquidità o dalla propensione al consumo, quanto piuttosto dalle politiche monetarie delle Banche Centrali.

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[4] Per un esame più dettagliato della teoria dell'offerta di credito e dell'offerta di moneta si rinvia agli ormai classici contributi di BRUNNER-MELTZER (1966-1968).

6. *La dicotomia reale/monetario e la distinzione stock-flussi*

Nel modello I il mercato monetario determina il livello assoluto dei prezzi e non influenza le variabili reali, mentre nel modello keynesiano il tasso d'interesse e gli investimenti. In entrambi questi modelli il mercato monetario utilizza variabili stock e apre un problema di coordinamento con il mercato reale che utilizza invece variabili flusso.

La letteratura su questi temi è molto vasta e ciclicamente il problema ritorna al centro di discussioni non sempre chiarificatrici.

Nel modello III abbiamo proposto una soluzione a questo problema introducendo il mercato finanziario definito in termini di variabili flusso. Tale armonizzazione non passa semplicemente attraverso un adeguamento temporale del mercato finanziario al mercato della produzione, ma si fonda su una modificazione teorica dei contenuti della domanda e dell'offerta di questo mercato.

Mentre infatti le equazioni (I.12) e (II.11) analizzano la domanda e l'offerta di moneta nella (III.11) si parla di domanda e di offerta di credito. Moneta e credito sono due concetti differenti.

La domanda di moneta cerca di spiegare da che cosa dipenda il grado di liquidità delle famiglie e delle imprese e individua nel motivo delle transazioni, precauzionale e speculativo le variabili che spiegano il desiderio di liquidità volontaria e involontaria del pubblico. La domanda di credito cerca invece di individuare i motivi che spingono (o costringono) le imprese, lo Stato e le famiglie a indebitarsi. L'interrogativo a cui tentiamo di rispondere non è da che cosa dipende la domanda di moneta, ma da che cosa dipende la domanda di debiti e la richiesta di finanziamento.

L'omogenizzazione delle strutture temporali dei due mercati e lo slittamento dell'interesse cognitivo dal mercato monetario al mercato finanziario si rende necessaria nel nostro modello perché altrimenti non si capirebbe come la domanda effettiva viene finanziata.

La spesa per beni capitali e la spesa pubblica sono vincolati dai profitti, dalle tasse e dalla disponibilità di credito che lo Stato e le imprese riescono ad ottenere.

Il mercato dei finanziamenti influenza in modo decisivo la domanda effettiva e il livello di equilibrio del reddito riveste un'importanza enormemente superiore al mercato monetario. La teoria economica viceversa ha trascurato questo fatto attribuendo un peso sproporzionato al grado di liquidità del portafoglio dei diversi soggetti economici ritenendo che questo fosse un osservatorio privilegiato per valutare l'influenza della moneta sulle variabili reali e sulla domanda aggregata.

È assai probabile che l'incertezza generi una domanda di liquidità e di attività finanziarie a breve da parte degli intermediari finanziari e delle famiglie, ma questo fenomeno, oltreché essere abbastanza discutibile e trascurabile come risulta da alcune ricerche empiriche di Brunner-Metzler, può spiegare comportamenti di breve periodo e certamente trascura il fatto fondamentale che la domanda aggregata e la spesa delle imprese e dello Stato è più sensibile al livello di indebitamento piuttosto che al livello della liquidità.

7. *Il dibattito sulla neutralità: l'influenza del settore finanziario sul settore reale attraverso i mercati finanziari e la distribuzione del reddito*

Nella teoria neoclassica la distinzione tra settore reale e settore monetario è molto rigida: nel modello I le equazioni (1)-(11) determinano le variabili reali del modello, mentre l'equazione (12) definisce il livello assoluto dei prezzi monetari proporzionale alla quantità di moneta. La funzione di offerta determina il livello di equilibrio del reddito che non è influenzato né dalla domanda né dall'offerta di moneta.

Nel modello keynesiano invece la domanda di moneta è sensibile alla differenza tra saggio d'interesse attuale e saggio d'interesse di lungo periodo cosicché una variazione dell'offerta di moneta induce una diminuzione del saggio d'interesse che si ripercuote sugli investimenti e la domanda aggregata sempreché il sistema non si trovi nella trappola della liquidità. Il mercato monetario canalizza così gli impulsi della politica monetaria e li trasmette al settore reale.

Nel III modello la politica monetaria influenza la domanda aggregata attraverso il mercato del credito. L'offerta di credito è data infatti dal prodotto della base monetaria e di un moltiplicatore. La Banca Centrale controllando la base monetaria può quindi influenzare il credito complessivamente disponibile riducendo o aumentando il costo e la quantità del credito. Insieme al reddito, il credito costituisce la principale fonte di finanziamento della spesa dello Stato e delle imprese e la sua abbondanza o scarsità si riflette immediatamente sulla funzione della domanda aggregata. La trasmissione della politica monetaria avviene attraverso un effetto prezzo e un effetto quantità – rispettivamente tasso d'interesse e quantità di credito disponibile [5].

Questi effetti diretti della politica monetaria sono i più evidenti ed

[5] Si veda a questo proposito CHICK (1977).

immediati nel breve periodo, ma non si deve dimenticare come la politica monetaria agisca in profondità non solo sul reddito di equilibrio, ma anche sui modi della sua distribuzione.

Per i neoclassici e Keynes la distribuzione del prodotto nazionale era legata alla tecnologia e al contributo produttivo dei diversi fattori di produzione. Le variabili monetarie, date queste premesse, sono neutrali riguardo al reddito di equilibrio come pure alla sua distribuzione. Secondo la teoria distributiva del terzo modello (eq. III.2, III.8, III.9, III.10) il saggio di salario non è vincolato alla sua produttività e reagisce negativamente al differenziale tra reddito effettivo e reddito di pieno impiego. Il comportamento dei salari è quindi prociclico, contrariamente a quanto asserisce la teoria della produttività marginale del lavoro accettata anche da Keynes. Numerose ricerche empiriche tendono a confermare che il salario reale aumenta in presenza di un trend favorevole del reddito e viceversa. La politica monetaria controlla quindi il credito e la domanda aggregata e indirettamente la distribuzione del reddito tra salari, profitti e tasse. Schematicamente si può pensare che una politica monetaria restrittiva crei disoccupazione, riduzione del salario reale e ricostituzione dei margini di profitto, mentre una politica monetaria espansiva può avere nel lungo periodo effetti opposti sollecitando aumenti salariali e contrazioni dei profitti e delle possibilità di autofinanziamento delle imprese.

D'altro lato la variazione del prodotto interno lordo produce conseguenze non solo sulla distribuzione tra profitti e salari, ma anche tra queste categorie da un lato e le tasse dall'altro, come testimonia il comportamento controciclico del deficit pubblico.

I mercati finanziari possono quindi influenzare la domanda aggregata limitando o ampliando il credito disponibile per il suo finanziamento. Questa influenza non è limitata comunque alla domanda di beni e servizi. Anche dal lato dell'offerta infatti il credito è un ingrediente necessario per avviare il processo produttivo. Le imprese hanno bisogno del credito perché devono pagare lavoro, materie prime e semilavorati prima che i ricavi dei prodotti finiti siano incassati. Come ha rilevato di recente Blinder (1985), il razionamento del credito può ridurre l'offerta potenziale delle imprese.

L'importanza del credito sul mercato della produzione dal lato dell'offerta non è una novità nella storia del pensiero economico; costituisce infatti una delle idee chiave dell'analisi dello sviluppo economico di Schumpeter (1932) il quale ha sempre insistito sull'importanza della connessione tra sistema bancario e innovazione.

E tuttavia tutte queste intuizioni non hanno trovato ancora una sistemazione coerente nella modellistica macroeconomica che continua a identificare

il mercato finanziario con il mercato monetario. L'equazione (13) definisce il comportamento dell'autorità monetaria. Nei modelli keynesiano e neoclassico la base monetaria è un dato esogeno; nel terzo modello invece l'offerta di base monetaria è positivamente legata al tasso di disoccupazione e inversamente al livello dei prezzi. L'autorità monetaria svolge una funzione anticiclica tagliando l'offerta di credito in presenza di inflazione e aumentando quando il tasso di disoccupazione è molto elevato. Si presume quindi che l'autorità non sia interessata solo alla stabilità dei prezzi, ma anche a favorire tassi di sviluppo del reddito in grado di assorbire la disoccupazione. La politica della Banca Centrale ha quindi un carattere flessibile, non rispetta una regola fissa di comportamento (ad esempio un tasso di incremento della moneta stabilito in anticipo), ma cerca di adeguarsi alle circostanze per garantire un parziale soddisfacimento degli obiettivi di politica economica. In questo modo interagisce con gli altri operatori economici nel determinare il sentiero di sviluppo e di crisi dell'economia.

L'introduzione di una funzione di comportamento dell'autorità monetaria si rende necessaria se vogliamo individuare il meccanismo che contribuisce in modo determinante a generare il ciclo economico.

8. *Il ciclo economico*

La teoria neoclassica ha sempre cercato di spiegare le fluttuazioni economiche partendo dal modello di equilibrio economico generale. Secondo Wicksell, Hayek, Robertson etc. il principale responsabile dell'alternarsi di periodi di depressione e di sviluppo era il settore bancario. La divergenza tra tasso d'interesse naturale (determinato dalla tecnologia e dalla parsimonia) e il tasso d'interesse di mercato (controllato dall'autorità monetaria) turbava gli equilibri reali del sistema e provocava oscillazioni intorno al livello di equilibrio di lungo periodo fino a quando l'autorità monetaria non interveniva per ridurre tale divergenza.

Più di recente la scuola delle aspettative razionali, e in particolare Lucas, ha ripreso la ricerca in questo settore anche se da un'angolatura diversa rispetto ai predecessori.

La possibilità del ciclo economico deriva da imperfetta informazione. Le scelte razionali degli operatori su di un certo mercato vengono prese tenendo presente le informazioni relative a quel mercato. Ma molto spesso queste scelte non sono di equilibrio dal momento che questi operatori non conoscono le situazioni degli altri mercati e scambiano quindi variazioni assolute dei prezzi per variazioni relative. Le funzioni di domanda e di

offerta ne risultano modificate fino a quando l'acquisizione di nuove informazioni induce un ritorno all'equilibrio.

La teoria keynesiana ha invece sempre sostenuto l'instabilità potenziale dei sistemi industriali attribuendola a variazioni dell'efficienza marginale del capitale. Le variabili monetarie non sembrano ricoprire nelle versioni più estreme del modello keynesiano alcuna importanza.

Nel III modello si può intravedere un processo dinamico determinato congiuntamente dalla distribuzione del reddito e dalla politica monetaria.

La domanda effettiva determina i livelli di attività e di occupazione, ma viene influenzata dalla distribuzione del reddito, in particolare dai profitti e dal grado di autofinanziamento degli investimenti. D'altro lato la distribuzione del reddito tra salari e profitti influisce anche sul tasso di inflazione; la Banca Centrale ripristina le condizioni dell'accumulazione quando i profitti si riducono e i prezzi salgono. Politiche monetarie restrittive creano disoccupazione e rallentano la crescita salariale.

La dinamica del modello richiama la dinamica classica laddove suppone che i profitti siano un elemento fondamentale per assicurare l'accumulazione del capitale e lo sviluppo economico. A differenza di Ricardo si suppone che siano le autorità monetarie e non i meccanismi demografici ad assicurare le precondizioni dello sviluppo.

È evidente dalla nostra analisi come la politica monetaria non sia affatto neutrale: influenza infatti gli investimenti e la domanda effettiva attraverso la disponibilità del credito e il suo costo; modifica la distribuzione del reddito riducendo e ampliando la differenza tra reddito potenziale e reddito effettivo e controllando seppur indirettamente l'occupazione per garantire continuità ad un processo di sviluppo che assume così caratteristiche cicliche: alti livelli di attività tendono infatti nel lungo periodo a far lievitare i salari e i prezzi provocando restrizioni creditizie, disoccupazione, ricostituzione dei margini di profitto, alleggerimento dei debiti e riavvio del processo di accumulazione.

La relazione tra salari e occupazione non passa attraverso il mercato del lavoro, ma si presenta in una forma più complessa: salari troppo elevati possono indurre politiche monetarie restrittive, non accomodanti e quindi disoccupazione, ma non c'è alcun legame diretto tra salario e produttività marginale tale da provocare direttamente disoccupazione.

Si dovrebbe analizzare poi come l'innovazione tecnologica possa raggiungere lo stesso tipo di risultati della politica monetaria. Ad esempio l'adozione di tecniche che risparmiano lavoro farebbe diminuire il valore del montesalari, aumentare il reddito potenziale e quindi i profitti. Ma un esame

della relazione tra distribuzione del reddito, nuove tecniche di produzione e livelli di occupazione non rientra tra gli obiettivi di questo lavoro.

9. *Alcune conclusioni*

Il terzo modello che abbiamo proposto è notevolmente semplificato: non tiene conto del fatto che la spesa pubblica può essere finanziata via base monetaria, descrive in termini elementari i mercati finanziari, non analizza la relazione e il processo di aggiustamento tra stock e flussi finanziari, non considera il tasso di cambio. Complicare il modello non presenta comunque difficoltà insormontabili come abbiamo cercato di dimostrare altrove.

Ci sembra comunque di avere evidenziato come la distribuzione del reddito e i mercati finanziari giuochino un ruolo molto importante nel determinare lo sviluppo dell'economia, un ruolo che la modellistica attuale sia essa di derivazione keynesiana oppure monetarista ha finito con il sottovalutare. Abbiamo cercato attraverso il confronto tra modelli macroeconomici di sottolineare queste lacune cercando al tempo stesso di proporre alcune soluzioni positive dei problemi che abbiamo sollevato.

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A COMPARISON BETWEEN MACROECONOMIC MODELS

Keynesian and monetarist macroeconomic theories analyze the output and the money market, and their relationship. The two theories differ on the role of money and the equilibrium savings/investments, but they share a common view of the supply theory and of the distribution of income founded on the marginal productivity of the factors of production. Paradoxically this implies that in keynesian theory a supply theory of full employment and a demand theory of underemployment coexist.

The aim of this paper is to compare the standard macroeconomic models with a different model proposed here and point out the inadequacy and the contradictions of the structures of traditional theories.

We suggest to cut the link between marginal productivity and rewards of the factors through a theory of distribution where wages and profits keep up with the level of production. This change allows a supply and demand equilibrium of underemployment. Moreover the macroeconomic models have to develop their monetary side; monetary theory should deal with the problems of finance, instead of money and in our model the market of financial assets and liabilities replaces the monetary market.

This approach explains also the economic cycle as a result of the interaction between distribution of income, financial markets and monetary policy.

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ECONOMIC EXPANSION AND THE THEORY OF CUSTOMS UNIONS

by
SEYMOUR PATTERSON *

I. *Introduction*

Viner's (1950) seminal work on customs unions has inspired several economists – Gehrels (1956) and Lipsey (1957) – to re-evaluate the fundamental implications of trade creation and trade diversion. Recently, the welfare effects of customs unions within the standard model of international trade have been rigorously examined by Batra (1973).

The purpose of the present paper is to analyze the traditional theory of customs unions in the presence of a growth agent. The problem we consider is an important departure from the examination of the customs union for the effects of an immediate imposition of a discriminatory tariff and a deterioration in the terms of trade. Once the home country abolishes tariffs with the trading partner, growth which will have implications for the terms of trade, may occur. It will be demonstrated that growth will have ambiguous effects on income (welfare) for the customs union and that in the interest of viability, if one country gains from growth then some form of income distribution will be necessary.

As in the standard theory of customs unions, we assume that there are three countries; the home country A has two possibile trading partners, *B* and *C*. All countries produce two goods, X_1 and X_2; *B* and *C* have a comparative advantage in the production of X_1. *A* is a small country, i.e., a price taker, so that if *A* engages in trade, it will do so with either *B* or *C*. Initially, *A* is under autarky by imposing prohibitive tariffs against *B* and *C*. Country *C* is the least cost producer of X_1. Trade creation results when *A* removes some tariffs against *C*, and *A* and *B* may form a trade-diverting customs union.

* Northeast Missouri University, Social Science Division, Kirksville, Mo. (U.S.A.).

II. *The Model*

We begin the analysis with the case involving no growth. Flexibility of factor prices and factor mobility in both X_1 and X_2 are assumed. These conditions ensure full employment [1].

The two goods X_1 and X_2 are produced using L_1 and L_2 units of labor and K_1 and K_2 units of capital, respectively, with strictly concave production functions subject to constant returns to scale.

$$X_i = X_i (K_i, L_i) \; i = 1,2 \tag{1}$$

Flexibility of factor prices ensures full employment of capital and labor.

$$L_1 + L_2 = \bar{L} \tag{2}$$

$$K_1 + K_2 = \bar{K} \tag{3}$$

The demand side of the model is depicted by a concave social utility function which is twice differentiable

$$U = U (D_1, D_2) \tag{4}$$

where D_1 and D_2 are the consumption demands for the two commodities, and $U_i \; (= \partial U/\partial D_i) > 0$ and $U_{ii} \; (= \partial U^2/\partial D_i^2) < 0$; $i = 1,2$.

Designate the first commodity as the importable good, and the second as the exportable good, respectively. And,

$$D_i = X_1 + E_1 \tag{5}$$

$$D_2 = X_2 - E_2 \tag{6}$$

where E_1 and E_2 are excess demand for X_1 and excess supply of X_2, respectively.

The balance of payments equilibrium requires that the value of exports equals the value of imports

$$E_1 = PE_2 \tag{7}$$

where $P \; (= P_2/P_1)$ denotes the foreign price ratio.

In addition to the terms of trade (TOT), a country's demand for imports is a function of a growth agent g. However, only the home country's

[1] In fact only the assumption of flexibility of factor prices is a sufficient condition to insure full employment, regardless of factor mobility.

demand for imports will be related to g, since we assume that the partner is stationary. Thus (7) becomes

$$PE_2(P) - E_1(P, g) = 0 \tag{8}$$

Differentiating (7) with respect to g, $E_2 dP/dg + PdE_2/dP^* dP/dg = = dE_1/dP/dg + dE_1/dg$, and setting P initially equal to unity, we obtain

$$dP/dg = \partial E_1/\partial g/(a_B + a_A - 1)E_1 \tag{9}$$

where a_A and a_B are the partner and home countries' demand elasticities for imports, i.e., $a_B = - dE_1/dP\,(P/E_1)$, $a_A = dE_2/dP\,(P/E_2)$.

Stability in the customs union market requires that $(a_B + a_A - 1) > 0$. Since $E > 0$, then $dP/dg \gtrless 0$ if $\partial E_1/\partial g \gtrless 0$ [2].

III. *Trade Creation and Trade Diversion Without Growth*

We first examine the welfare effects of a customs union in the absence of a growth agent.

Totally differentiating (4) - (7) and using the consumer equilibrium criteria, i.e., $U_2/U_1 = P_2'/P_1'$, we obtain

$$dU/U_1 = (dX_1 + P'dX_2) + dE_1 - P'(dE_1 - E_2 dP)/P \tag{10}$$

Since the formation of a customs union involves a discriminatory reduction in tariffs, $E_1 = E_1(t, P)$, and $dE_1 = (\partial E_1/\partial t)\,dt + (\partial E_1/\partial P)\,dP$. Equation (10) may be written as

$$dU/U_1 = (dX_1 + P'dX_2) + (\partial E_1/\partial t)\,dt + (\alpha(\partial E_1/\partial P) + \beta)\,dP \tag{11}$$

where $P' = P/(1 + t)$ is the domestic price ratio, $\alpha = t/(1 + t) > 0$, and $\beta = E_1/(1 + t)\,P > 0$.

Equation (11) is similar to the basic equation (4.24) developed by Batra (1973, p. 103) and Yu (1982). It is known that the first term will vanish in the absence of factor distortions because production equilibrium requires that the marginal rate of transformation be equal to the domestic price ratio, i.e., $dX_1 dX_2 = - P$. The second term of the right hand side (RHS) $(\partial E_1/\partial t)\,dt$ captures the change in Social Welfare as a result of a

[2] This is the direct result of the Marshall-Lerner Condition. Countries A and B are trading partners, and the merchandise trade among them can affect the balance of payments.

change in the tariff on imports, and the last term captures the welfare effect of an exogenous change in the home country's terms of trade.

It is assumed, for purpose of the analysis, that the home country A is under autarky initially, and the importable industry is protected by prohibitive tariffs levied against countries B and C.

Trade creation occurs when the home country A changes from a higher cost source of supply to a lower cost source, and trade diversion occurs when the home country A moves from a lower to a higher cost source of supply of the importable good. Equation (11) may be used to demonstrate these effects. Country C's foreign price ratio is faced by country A, so $dP = 0$ and $dt < 0$. Given $E_1 = D_1 - X_1$ and $E_1 = E_1(t, p)$, equation (11) becomes

$$dU/U_1 = \alpha(\partial D_1/\partial t)\, dt > 0 \tag{12}$$

Equation (12) states that a reduction in tariff will increase domestic consumption of importable goods, and increase the home country's social welfare.

On the other hand, since A has already engaged in free trade with B under trade diversion, $dt = 0$ and $dP < 0$. Thus:

$$dU/U = [\alpha\,(\partial D_1/\partial P) + \beta]\, dP < 0. \tag{13}$$

IV. *Trade Creation and Trade Diversion with Growth 1*

Since free trade has been established between countries A and B, i.e., $dt = 0$, economic growth in country A will have implications on the effects of a change in the growth agent, g, on the *TOT*, P.

Substituting (9) into (13), we obtain

$$dU/U_1 = [(\partial D_1/\partial P) + \beta]\,[(\partial E_1/\partial g)/(a_B + a_A - 1)\, E_1]\, dg \tag{14}$$

Differentiating $E_1 = D_1(P_1, Y) - X_1(P, g)$ with respect to g yields

$$dE_1/dg = (\partial D_1/\partial Y)\,(dY/dg - \partial X_1/\partial g) = \partial Y/\partial g\,(M_A - Z_A)\,^{3}.$$

In order to evaluate the effect of growth on the home country's demand for imports, *TOT* must be held constant, i.e., $dP = 0$. Thus in equation (14) $(\partial E_1/\partial g)$ will determine the sign of dU/U_1 and $(\partial D_1/\partial P)$ will vanish.

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[3] See BATRA (1973, ch. 6) for a detailed discussion.

$$dU/U_1 = [(\partial E_1/\partial g)/(a_B + a_A - 1)\ E_1]\ dg \qquad (14a)$$

Real income will increase, decrease, or remain the same if growth increases, decreases, or leaves unchanged the demand for imports, respectively. Or $(1/U)\ dU/dg = dY/dg \gtreqless 0$ according as $\partial E_1/\partial g \gtreqless 0$, where dY/dg is the change in real income due to growth.

On the other hand, if $dP > 0$, growth will cause real income in (14) to increase or decrease, respectively.

V. *Trade Creation and Trade Diversion with Growth 2*

Beginning with Edgeworth (1899), Batra and Scully (1971), and Bhagwati (1958) [4] demonstrated the possibility that country *a* could experience a worsened position after growth if the worsening in the *TOT* is large enough to offset the gain in its output due to growth.

We make use of equation (13) to evaluate the possibility of immiserizing growth in the customs union. With the growth agent incorporated, we obtain

$$dY/dg = [\alpha(\partial D_1/\partial P) + \beta\ dP/dg] \qquad (15)$$

And substituting (8) for dP/dg in (15), we obtain [5]

$$dY/dg = [\alpha\ (\partial D_1/\partial P) + \beta]\ [(\partial Y/\partial g)\ M_A - Z_A)/E\ (a_B + a_A - 1)] \qquad (16)$$

where $M = P\ \partial D_1/\partial Y = \partial D_2/\partial Y_1$ is the marginal propensity to consume importables in country A and $Z_A = (\partial X_2/X_2)/(\partial Y/Y)$ is the measure of the change in the output of the importable good as a proportion of the rate of change in income. $dY/dg \gtreqless 0$ according as $M_A \gtreqless Z_A$. Equation (16) demonstrates that if $M_A < Z_A$, growth will result in a decline in real income.

If $dP = 0$ in (16), we obtain

$$dY/dg = \beta[\partial Y/\partial g)\ (M_A - Z_A)/E_1\ (a_B + a_A - 1)] \qquad (17)$$

Since $\partial Y/\partial g > 0$, $B > 0$, real income in country A cannot be unambiguously evaluated as a consequence of growth. This is an interesting result.

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[4] Presents a concise and interesting geometrical note on immiserizing growth.

[5] Noting that $\partial E_1/\partial g = \partial Y/\partial g\ (M - Z)$, equation (13) can be written as

$$dU/U_1 = [\alpha(\partial D/\partial P) + \beta]\ [(\partial Y/\partial g)\ (M_A - Z_A)/E_1\ (a_B + a_A - 1)]\ dg.$$

Furthermore, in the absence of inferior commodities, M_A is only a positive fraction. So the magnitude and sign of Z_A and M_A will have implications for the effect of growth on social welfare. If $M_A > Z_A$, growth will cause welfare to rise; if $Z_A > 1$, i.e., $Z_A > M_A$, social welfare will decline.

In conclusion, by the inclusion of growth into the standard model of customs union, we have demonstrated that growth will have ambiguous effects on the union when the home country A is experiencing economic growth and the partner is not. If the change in the output of the importable as a proportion of the rate of change in income (Z_A) is greater than the marginal propensity to consume importables in country A (M_A), growth will result in a decline in real income.

On the other hand, if $M_A > Z_A$, from equation (16), it is clear that country A's income will improve because of growth; country B may wish to break away from the union if her welfare i.e., income, does not rise. Gately (1974) has suggested that in order for the union to be viable, after the formation of the union income, it must be at least as high as it would have been had the country chosen not to join the union.

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ESPANSIONE ECONOMICA E TEORIA DELLE UNIONI DOGANALI

Il lavoro pionieristico di Viner (1950) sulle unioni doganali ha ispirato molti altri autori (Gehrels, 1956, Lipsey, 1957) inducendoli a riconsiderare le principali conseguenze della creazione e della diversione di flussi commerciali nel quadro del modello standard delle unioni doganali. Recentemente Batra (1973) ha esaminato gli effetti delle unioni doganali alla luce del modello standard di commercio internazionale.

Il presente saggio propone un tentativo di incorporare un agente di crescita entro l'analisi standard dell'unione doganale. Questa prospettiva va oltre il campo degli effetti dell'unione sul benessere a causa dell'imposizione di una tariffa e del deteriorarsi dei termini di scambio.

Il modello comprende tre paesi: il paese prescelto (A) ha due possibili *partners* commerciali, B e C; tutti e tre i paesi producono due beni X_1 e X_2. Il paese A è piccolo ossia *price taker*. Inizialmente A è in autarchia salvaguardata attraverso l'imposizione di tariffe proibitive nei confronti degli altri due paesi, mentre il paese C produce X_1 a minor costo. La creazione di flusso commerciale si ha allorché il paese A rimuove qualcuna delle tariffe nei confronti di C e A con B possono formare un'unione doganale che crea diversione commerciale.

La crescita in uno dei paesi recherà effetti ambigui sull'unione. Nel paese prescelto A, se il mutamento del prodotto del bene importabile rispetto al mutamento del reddito è maggiore della propensione marginale a consumare il bene importabile, la crescita provocherà un declino del reddito reale.

Nel caso opposto il benessere del paese prescelto A subirà un miglioramento per effetto della crescita. In generale la stabilità dell'unione è legata alla condizione di non provocare riduzioni di reddito e di benessere in nessuno dei paesi partecipanti.

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TARIFFS AND COMPENSATION PAYMENTS IN GENERAL EQUILIBRIUM: A CONSUMER SURPLUS APPROACH

by
DAVID FELDMAN *

I. *Introduction*

The relationship between tariffs and welfare in general equilibrium typically has been handled in the trade literature using one of two different approaches. On one side of the divide is the bulk of the tariff theory literature in which simple $2 \times 2 \times 2$ trade models are used to obtain analytical solutions through first order terms. The appendices to Caves and Jones (1985) are a storehouse of such models. This literature emphasizes understanding the links between key variables in as simple a setting as possible. As an alternative we have the disaggregated general equilibrium models used in Deardorf and Stern (1983), Dervis, De Melo and Robinson (1982) or Dixon et al. (1982). In these large disaggregated structures the intuition behind the interrelationships between variables is obscured by the need to use numerical solution techniques. Theoretical clarity is traded for the potentially greater accuracy of a larger model.

There is a need for a middle ground comparable to Johnson's (1960) consumer surplus type analysis but which considers terms of trade variation. First order approximations of the welfare effects of tariff policy are convenient but rough. Disaggregated general equilibrium structures are as accurate as the restrictions of present technique will allow, but they are cumbersome and the restrictions necessary to solve them are not insubstantial. They are also quite expensive. There is mileage to be gained from developing analytical solutions to general equilibrium models in which variables can change by discrete (as opposed to infinitesimal) amounts and in which more than one policy variable can be considered simultaneously.

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* Colgate University, Department of Economics, Hamilton, N.Y. (USA).

I owe a debt to Ed Tower for good insights. All errors remain the property of the author.

In the first part of this paper we present a technique for deriving a second order approximation of the effect on consumer surplus of discrete adjustments of one nation's *ad valorem* tariff within the framework of a simple two-country general equilibrium model [1]. This technique is a convenient vehicle for quick estimates of the short run welfare effects of tariff policy. The import demand functions we specify are simplified aggregates, but the technique we develop permits the use of a wide range of functional forms [2]. Since our analysis is not confined to first order approximations of the demand functions we can determine the empirical relevance of paying attention both to second order terms of import demand functions and to second order terms of the welfare cost expression itself [3] [4].

The issue of payments made as compensation for policy changes is well suited for this type of consumer surplus analysis. Consider a two country world (call the nations North and South). The welfare cost on South of North's tariff can be considered an externality of North's domestic policy. How much should South ask as compensation in order not to retaliate with a tariff of its own? Abstracting from issues of internal income distribution, the externality could be eliminated if North were required fully to compensate South for any welfare loss. In the second part of the paper we use our approach to consider the general equilibrium effects on the terms of trade of any such tariff-transfer combination. Together with the restriction that North's tariff not impose a welfare cost on South we obtain an expression that relates the size of North's tariff to the amount it must transfer to its trading partner. More generally we are considering how a second policy instrument can be used to minimize the welfare impact of the first, taking into account the general equilibrium impact of both. The specific case discussed here is but one of many possible applications of this consumer surplus technique [5].

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[1] TOWER et al. (1978) deal with second order general equilibrium effects of tariff policy but solve the model with an iterative process. JOHNSON (1965) obtains an analytical solution for the welfare cost of protection using an explicitly postulated social welfare function, but his is a small country model in which the world price is unaffected by commercial policy. Also, his welfare calculation is restricted to a comparison between free trade and autarky.

[2] FELDMAN and TOWER (1986) use this consumer surplus approach to discuss the welfare effects of unstable real exchange rates under alternative specifications of the import demand functions.

[3] The choice not to linearize is an empirical matter. Second order terms of demand functions derive from third order terms of utility functions, and I know no theoretical constraints on their behavior.

[4] Using the techniques of this paper one could redo JOHNSON's (1960) "The Cost of Protection and the Scientific Tariff", taking into account the second order terms of demand functions.

[5] For a more general treatment of the issue of welfare measurement see MCKENZIE and PEARCE (1982).

II. *Framework of Analysis*

The model we use is a further simplified version of the standard 2 × 2 × 2 general equilibrium structure familiar in the trade literature. We assume that each of the two nations is specialized in the production of a single good. There are no speculative demands for inventories. Full employment is assumed to prevail through the use of appropriate neutral taxes or subsidies. The terms of trade (TOT) adjusts to equilibrate the external balance. Hence at each TOT, and for both nations, the world demand for domestic output equals the full employment supply. We begin from a no-tariff free trade equilibrium. North then imposes an *ad valorem* tariff on imports from South that is significantly greater than zero. These simplifications insure that the mathematics is simple enough so as not to obscure the main thrust of the argument.

Utility is assumed to depend upon consumption of the home produced good and of the import. The representative individual's utility function is restricted to be linearly homogeneous so the marginal utility of income is constant [6]. We choose the units of utility so as to insure that at the initial equilibrium TOT the marginal utility of income equals one. This allows us to equate a change in consumer surplus with a change in utility.

One unit of South's currency is defined as that amount which in free trade sells for one unit of North's currency. Next we normalize units of output to insure that one unit of output sells for one unit of home currency. Thus each country's expenditure is the same whether expressed in terms of its currency or in units of the good in which it is specialized.

III. *The Model* [7]

Throughout the paper North's variables will be unstarred while South's will be denoted with a star. Thus North faces a price of foreign exchange P (in Dollars/Peso for example) while South sees a price P^* (in Pesos/Dol-

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[6] Homotheticity is sufficient to permit the use of demand functions of the form given subsequently in equations (3a) and (3b). The stronger assumption of linear homogeneity is purely for mathematical simplicity. Neither assumption, however, is a necessary component of this paper's method.

[7] A mathematical appendix is available from the author on request.

lar). Proportional deviations of the two variables from their free trade values of unity are given by

$$p = P - 1 \quad ; \quad p^* = P^* - 1. \tag{1}$$

Since $P^* = 1/P$, we can use a Taylor series to write

$$p^* = -p + p^2 + \ldots \tag{2}$$

Before proceeding we define the following variables and parameters:

M (M^*) Northern (Southern) imports;

m (m^*) the free trade Northern (Southern) marginal propensity to import;

A (A^*) Domestic absorption in North (South), in terms of the home produced good;

t the *ad valorem* tariff rate set by North;

p_t the tariff-inclusive proportional change in the domestic relative price of imports for North. $p_t = P(1 + t) - 1$.

With linear homogeneous utility functions we can write the pretariff uncompensated import demand functions for North and South as second order Taylor series expansions around $P = 1$, or

$$M = mA[1 - \eta p + \beta p^2], \tag{3a}$$

$$M^* = m^*A^*[1 - \eta^* p^* + \beta^* p^{*2}], \tag{3b}$$

where η and η^* (> 0) are the uncompensated price elasticities at the initial TOT, and the parameter β (β^*) is related to the curvature of the demand function. For a linear demand curve β will equal zero; for a constant elasticity of demand (*CED*) curve $\beta = \eta(\eta + 1)/2$ [8].

Imposing a tariff affects North's domestic absorption since there is tariff revenue to be distributed, in neutral fashion, back to consumers. The tariff inclusive total value of imports, measured in units of North's good, is $M(1 + t)P$. From North's income identity, $Y = A + X - M(1 + t)P$, where Y is North's total output and X represents exports. By assumption Y is fixed, and the TOT adjusts to insure that the external balance, $X - MP$, equals zero. So domestic absorption rises by MPt. And with a tariff the proportional change in the domestic relative price of North's imports is p_t.

[8] We use only terms up to and including squared deviations from equilibrium. The analysis could, however, be extended to any desired degree of accuracy. An approximation is not necessary if a utility function is specified. We have opted instead for flexibility in choosing functional form.

Thus

$$M = m(A + tPM)[1 - \eta p_t + \beta p_t^2]. \tag{4}$$

Trade balance dictates that

$$M - M^*/P = 0 \tag{5}$$

If we let a 0 subscript denote free trade values, the fact that the initial equilibrium is characterized by balanced trade implies that

$$M_0 = M_0^* = mA = m^*A^*. \tag{6}$$

To determine the effect on South of a Northern tariff we need to know its effect on the terms of trade. If we substitute (3b) and (4) into (5) and use (1), (2), and (6) we obtain

$$-\lambda p - \eta_c t + 2\sigma pt + \delta p^2 + \theta t^2 = 0\ ^9, \tag{7}$$

where

$\lambda = \eta + \eta^* - 1$ (the Marshall-Lerner parameter);

$\eta_c = \eta - m$ (the compensated demand elasticity);

$\sigma = \beta - \eta m - \frac{1}{2}\eta_c$;

$\delta = \beta - \beta^* + 2\eta^* - 1$;

$\theta = \beta - \eta m - m\eta_c$.

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[9] To solve the equation (7) we must first express M^* and M in terms of p (the proportional deviation in the TOT). From (3b),

$$M^*/P = [1 + (\eta^* - 1)p + (1 - 2\eta^* + \beta^*)p^2], \text{ using } m^*A^* = 1,$$
$$\text{since } 1/(1+p) = 1 - p + p^2 \ldots$$

From equation (4) we can write

$$M = \frac{[1 - \eta p_t + \beta p_t^2]}{1 - mt(1+p)[1 - \eta p_t + \beta p_t^2]},$$

which we solve using a general second order Taylor series expansion:

$$M = 1 - \eta p - \eta_c t + 2\left[\beta - \eta m - \frac{1}{2}\eta_c\right]pt + \beta p^2 + [\beta - \eta m - \eta_c m]t^2.$$

Equation (7) is obtained by substituting these expressions for M and M^*/P into the TOT equation, $M - M^*/P = 0$, and rearranging terms.

To solve equation (7) we use the method of undetermined coefficients. We postulate a solution equation of the form

$$p = at + bt^2 + \ldots \tag{8}$$

Then substitute (8) into (7) to get an equation of the form

$$At + Bt^2 + \ldots \tag{9}$$

which is satisfied for all values of t only when $A = B = \ldots = 0$.

Setting $A = B = 0$ yields values for the first two undetermined coefficients in (8) in terms of the parameters of (7):

$$a = -\eta_c/\lambda \quad ; \quad b = [a(2\sigma + a\delta) + \theta]/\lambda. \tag{10}$$

In general, we can write p as an nth order power series by examining coefficients in (7), (8), and (9) of terms to the nth order and below.

IV. *Calculating the Welfare Effect of a Tariff*

In this section we use South's compensated demand function to relate the change in its consumer surplus to North's tariff. To calculate the change in Southern consumer surplus through deviations from equilibrium squared requires only up to the first order term of the compensated import demand function. The second degree term would contribute to third order effects. The second order components of each nation's uncompensated demand functions (β and β^*) do, however, enter the welfare loss calculation through the TOT effect of equation (8).

Through first order terms, South's compensated import demand function is $M_c^* = M_0 [1 - \eta_c^* p^*]$, where $\eta_c^* = \eta^* - m^*$. If we integrate this between the initial and final equilibrium TOT (expressed as deviations from the free trade value) we obtain the change in consumer surplus as a compensating variation:

$$\Delta W^* = \int_0^{p^*} M_0 [1 - \eta_c p^*] \, dp^* \tag{11}$$

Performing the integration, and using (2), yields

$$\Delta W^* = M_0 \left[p - \left(1 - \frac{1}{2} \eta_c^* \right) p^2 \right]. \tag{12}$$

Using the solution equation (8) allows us to express the change in South's consumer surplus in terms of North's tariff as

$$\Delta W^* = M_0 \left[at + \left\{ b - \left(1 - \frac{1}{2} \eta_c^* \right) a^2 \right\} t^2 \right]. \tag{13}$$

Some sample calculations using equation (13) are given in Table 1.

TABLE 1

WELFARE COST ON SOUTH AS A PERCENTAGE OF THE INITIAL VOLUME OF TRADE

t	η	η^*	$m = m^* = .1$			$m = m^* = .25$		
			FO	*L*	*CED*	*FO*	*L*	*CED*
.1	1	1	9.0	7.8	8.6	7.5	6.1	7.3
.1	1	3	3.0	2.8	2.8	2.5	2.3	2.3
.1	3	1	9.7	8.9	9.3	9.2	8.6	8.9
.1	3	3	5.8	5.0	5.2	5.5	4.9	5.0
.3	1	1	27.0	16.5	23.7	22.5	16.1	20.6
.3	1	3	9.0	6.9	7.0	7.5	6.0	6.2
.3	3	1	29.0	22.5	25.3	27.5	21.2	24.7
.3	3	3	17.4	10.4	12.2	16.5	11.1	12.2

Using various marginal propensities to import and *ad valorem* tariff rates we determine the welfare cost on South for different combinations of import demand elasticities. We have normalized the initial volume of trade to unity. Three versions of equation (13) are given: a first order approximation (*FO*) in which the t^2 term of (13) is ignored, and linear (*L*) and *CED* import demand functions where second order terms are included. In the linear case the import demand functions have no second order terms ($\beta = \beta^* = 0$), but we can obtain a second order welfare approximation since the balance of trade equation (7) can be carried out as many terms as desired. The *CED* simulation includes the second order terms of the import demand functions as well. The second order approximations do differ markedly from each other as well as from the first order expression, and the differences are larger the greater the tariff rate. When $t = .3$ the difference ranges up to

67% of the welfare loss due to the tariff. It is not safe to ignore second order terms. Nor should one ignore the functional form of the import demand functions since second order terms of the demand functions markedly affect the size of the welfare cost of a tariff.

As a policy application we can evaluate the 1971 U.S. import surcharge to obtain a rough calculation of the welfare cost imposed on the rest of the world. Estimates of import demand elasticities vary considerably. For the U.S. we have used one of Goldberg's and Khan's (1976) short run elasticity estimates ($\eta = .5$) and have presumed that the world import demand elasticity faced by the U.S. is fairly high ($\eta^* = 3$). The U.S. average propensity to import in 1971 is taken as a proxy for the free trade marginal propensity to import ($m = .06$) [10]. The world marginal propensity to import U.S. goods is presumably low as well and we will assume $m^* = .1$. The initial average tariff rate ($t = .15$) is taken from Basevi's (1968) study of U.S. tariffs. Using these parameters, a ten percent import surcharge reduces welfare abroad by 1.1% (*CED*) to 1.8% (*FO*) of the free trade volume of trade. We could use the actual volume of trade to arrive at a lower bound on the dollar magnitude of this loss.

V. *Tariff and Compensation Payment*

We now turn to the issue of compensation payments designed to internalize any externality imposed on South by North's tariff. This adds the transfer payment T from North to South, measured in units of South's good, as a second policy variable. We also have an additional equation, namely the constraint that North's tariff must not affect South's welfare. We seek to derive a relationship between the chosen tariff rate and the size of the compensatory transfer payment. The tariff-transfer combination affects both nations' import demand functions. For North, domestic absorption still rises by the tariff revenue, tPM, but falls by PT, the value of the transfer measured in units of North's good. South's domestic absorption rises by T. Hence

$$M = m(A + tPM - PT)[1 - \eta p_t + \beta p_t^2], \tag{14}$$

$$M^* = m^*(A^* + T)[1 - \eta^* p^* + \beta^* p^{*2}] \tag{15}$$

[10] From the I.M.F.'s *International Financial Statistics.*

The transfer of purchasing power from North to South yields a balance of trade equation,

$$M - M^*/P = -T, \tag{16}$$

which is now a function of p, T, and t.

The final equation is the constraint that South's welfare remain unaffected by North's tariff. The welfare consequences of any tariff-transfer combination are twofold: first the TOT effect discussed in the previous section, and now the direct increase in income to the transfer recipient. Together, the change in South's consumer surplus due to any tariff-transfer combination would be

$$\Delta W^* = T - \int_0^{p^*} m^* (A^* + T)\,[1 + (m^* - \eta^*)\, p^*]\, dp^*, \tag{17}$$

Setting $\Delta W^* = 0$ and using (1) and (2), we obtain

$$T = -p + \left(1 + m^* - \frac{1}{2}\eta_c^*\right) p^2.^{11} \tag{18}$$

If we substitute (14), (15), and (18) into the balance of trade equation (16), and use (1), (2), and (6) we obtain

$$-(\eta_c + \eta_c^*)\, p - \eta_c t + \xi p t + \theta t^2 + \omega p^2 = 0, \tag{19}$$

where

$$\xi = 2\left[\beta - m\eta - \frac{1}{2}\eta_c\,(m + 1)\right],$$

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[11] Setting $\Delta W^* = 0$ yields

$$T = m^* (A^* + T)\left[-p + p^2 - \frac{1}{2}\eta_c^*\, p^2\right]$$

$$= -p - m^* T p + \left(1 - \frac{1}{2}\eta_c^*\right) p^2 \qquad \text{up to 2nd order terms.}$$

So, $T = \left[-p + \left(1 - \frac{1}{2}\eta_c^*\right) p^2\right]/(1 + m^* p)$.

Using a second order Taylor expansion yields

$$T = -p + \left(1 + m^* - \frac{1}{2}\eta_c^*\right) p^2.$$

$\theta = [\beta - m\eta - m\eta_c]$ from before (p. 423).

$$\omega = \left[(\beta - \beta^*) + (\eta_c + \eta_c^*) - m^* \left(1 + m^* - \frac{1}{2}\eta_c^*\right)\right]^{12}$$

Again we postulate a solution equation of the form $p = at + bt^2$ and substitute it into equation (19). Solving for the undetermined coefficients a and b yields,

$$a = -\eta_c/(\eta_c + \eta_c^*),$$
$$b = [a(\xi + \omega a) + \theta]/(\eta_c + \eta_c^*) \qquad (20)$$

To obtain the final relationship between the size of the transfer from North to South in terms of North's tariff rate we solve equation (18) in terms of the coefficients of the solution equation, or

$$T = -at + \left[\left(1 + m^* - \frac{1}{2}\eta_c^*\right) - b\right] t^2. \qquad (21)$$

The first order term involves only compensated demand elasticities. This is not surprising since a neutral redistribution of tariff revenue acts as first order compensation to North and South receives direct income compensation.

Table 2 gives some sample calculations using equation (21). An nth order approximation (or exact calculation) of (21) would yield a function that diminished at the margin. A maximum transfer would be reached as the tariff became prohibitive. Both second order approximations have the appro-

TABLE 2

TRANSFER AS A PERCENT OF INITIAL VOLUME OF TRADE GIVEN $\eta = 2$, $\eta^* = 1$, $m = .5$, $m^* = 0$

t	T		
	FO	*L*	*CED*
.05	3.0	2.9	2.9
.10	6.0	5.5	5.5
.15	9.0	7.9	7.8
.20	12.0	10.0	9.8
.25	15.0	11.9	11.6

[12] The solution procedure is basically the same as that used for equation (7).

priate shape, and again we see pronounced differences between first order and second order approximations. Finally, it is apparent that even modest tariffs may require substantial transfer payments when we consider the general equilibrium impact of both.

As we might expect, the degree of openness affects the size of compensatory payments. Simulations of equation (21) revealed that in general, the more open is the Northern economy (the larger its marginal propensity to import) the smaller the transfer payment must be for any given tariff rate, or $\partial T/\partial m < 0$. The more open is South, the larger the transfer must be.

Finally, we can use equation (21) to reevaluate the 1971 US import surcharge in terms of compensating payments. Given the parameter values from before ($m = .06$, $m^* = .1$, $\eta = .5$ and $\eta^* = 3$), an initial US average tariff rate of 15% would have necessitated a transfer of 2.0% (*FO*) 1.9% (*L*), or 1.8% (*CED*) of the free trade volume of trade. The ten percent import surcharge would increase the transfer burden to 3.3% (*FO*), 3.1% (*L*), or 2.8% (*CED*). Thus the surcharge could have increased the transfer burden by up to 65% (*FO*).

VI. *Concluding Remarks*

The purpose of this paper has been twofold: to develop a manageable way to solve analytically for the welfare effects of an *ad valorem* tariff and to apply the method to a policy relevant situation. We use a simple two-country two-good general equilibrium model to derive second order approximations of the welfare effects of discrete adjustments of the tariff rate using a wide range of functional forms for the import demand functions. This technique was then applied to the case in which a tariff is combined with a transfer so as to insure that the trading partner suffers no welfare loss. Thus we have jointly analyzed tariffs and transfers in a simple general equilibrium setting. Since tariffs in the industrialized world are primarily an instrument of domestic policy (and politics) a tariff-transfer combination could be used as a substitute for tariff reduction.

The structure of the model used in this paper is deliberately simple and short run in nature. Some possible extensions are: a) both nations levy tariffs and/or the initial equilibrium is not free trade, or b) relax the assumption of complete specialization so as to incorporate the effects of substitution in production. Also, the technique developed here is not restricted to the case of tariffs and transfers. The consumer surplus approach can be used to obtain second order approximations of the welfare effects of discrete movements of any number of policy variables.

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TARIFFE E PAGAMENTI COMPENSATIVI NELL'EQUILIBRIO GENERALE: UN APPROCCIO IN TERMINI DI RENDITA DEL CONSUMATORE

Questo articolo presenta una tecnica per calcolare con qualsiasi grado desiderato di precisione gli effetti sul benessere di cambiamenti non infinitesimali delle tariffe in un modello di equilibrio generale semplice con due paesi dove i *terms of trade* possono variare. Questo lavoro rappresenta una via di mezzo fra i modelli lineari semplici consueti nella letteratura, e le piú ampie strutture disaggregate dell'equilibrio generale che richiedono tecniche con soluzioni numeriche. Le approssimazioni di secondo ordine manifestano effetti sul benessere notevolmente diversi dalle consuete linearizzazioni. L'approccio è poi esteso agli effetti dei trasferimenti compensativi sull'equilibrio generale. Si mostra come tariffe relativamente piccole possano richiedere trasferimenti compensativi rilevanti quando si consideri l'impatto di entrambi.

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AN APPRAISAL OF DIFFERENT THEORETICAL APPROACHES AND MODELS OF FOREIGN DIRECT INVESTMENT AND INTERNATIONAL TRADE

by
STEFANO MAINARDI *

1. *Introduction*

The main concern of this paper is to provide a critical evaluation of various theories which analyse the determinants of foreign investment and its possible linkages with international trade. Attention is particularly given to the theoretical contexts and the main factors proposed by different authors in order to explain the relationships between foreign direct investment (FDI) [1] and international trade.

In this respect, it has been argued that "until quite recently, much trade theory made no reference at all to other aspects of international economic relations", and that "yet the existing theories of international trade and of international investment and profit flows are not well integrated" (Steedman, 1979, p. 9), even if the same author here quoted recognizes to have omitted the treatment of FDI from his analysis (ibid., p. 225). In the classical theories, investment was principally seen as an endogenous factor of growth, taking place in a fundamentally competitive framework. Classical economists were mainly concerned with the causes of trade between na-

* United Nations Development Programme, Maputo (Mozambique) and Bocconi University, Milan.

[1] According to the official definition of the IMF (Balance of Payments Manual), FDI consists of investment coming from outside the country, intended to establish or increase some kind of permanent participation in an enterprise within the national territory, so as to allow the foreign investor to exercise a certain degree of influence or control over the management of the enterprise. Apart from this specific official definition, and partly reflected in the formulation itself, the concept is far from being univocally interpreted in the economic literature concerned (CASSON, 1982a), as will appear also in the analysis which follows.

tions, while capital and other production factors were supposed not to move internationally. In fact, the international capital movements actually observed were considered either as fortuitous events, or as analogous to domestic investment, being their bulk constituted by capital moving within the colonial empires, principally for mining and plantations. It was Schumpeter who first developed an insight into the mechanism of investment initiatives arising from non-competitive conditions, anticipating in a certain sense some of the subsequent theoretical contributions explicitly dealing with FDI and international trade. When in the 1930s the first analyses of capital movements appeared (Ohlin 1933; Haberler, 1933; Nurkse, 1935; Iversen, 1936), they focused on portfolio investment, while at the same time *de facto* the classical assumption of international immobility of production factors tended to become a reality (Agarwal, 1980). However, it was only in the post-second World War period that a remarkable and rapid increase of transfers of capital on a world scale was accomplished, initially primarily composed of portfolio lending and governmental aid coming mostly from the USA (Marshall Plan), whereas later, in the 1950s and 1960s, increasingly constituted by FDI. The latter attracted the attention of various economists interested in investigating the possible determinants of these investments and eventually their relations with other forms of international economic involvement, like international trade.

Apart from those which do not directly deal with this subject, but rather contribute to its understanding in a complementary fashion (theories of the international location of service activities and customs unions theories), these theories can be broadly grouped according to whether they stress either a macroeconomic, or a microeconomic, or finally an 'eclectic' approach. The following analysis does not intend to be exhaustive as far as modern FDI and international trade theories are concerned; it tries rather to examine the main theoretical contributions which appear to link (or could be helpful in linking) the two topics just mentioned. Because of their quite different underpinnings, 'dependencia' and marxist theoretical contributions do not fall within the scope of the following analysis.

In general terms, the theories here presented and criticized can be distinguished in various groups also with regard to the explanatory elements which they tend to stress: (i) some emphasize factors such as changes in foreign exchange rates or in tariff levels as determinants of FDI (Aliber and Mundell, respectively); (ii) others focus rather on shifting comparative advantages in different countries across or within industrial sectors (Kojima-Ozawa, Schmitz-Helmberger), eventually analysing also changing patterns of production and consumption for specific goods (Vernon); (iii) a third group

of theories consider firm-specific characteristics leading to internalization and product differentiation of international trade transactions (Hymer, Kindleberger, Caves); (iv) a few models attempt to explain the decision-making process of foreign market-servicing by a firm through a formal analysis of alternative choices (Horst, Hirsch); and (v) a group of recent contributions bring together various aspects of the models under (i), (ii) and (iii), following an approach which has been therefore called 'eclectic' (Dunning, among others). After a separate analysis of each, these theories are briefly reconsidered together in the conclusions.

2. *Capitalization Rate Hypothesis*

Most modern theories of FDI and international trade recognize with more or less emphasis that FDI arises as a result of imperfect markets. However, market imperfections are considered more as a necessary than as a sufficient condition; moreover, some of these theories rest on a framework of external economies of scale and government policies.

Within the group of theories using a macroeconomic approach, Aliber's 'capitalization rate' hypothesis attempts to explain FDI flows in terms of variations in international exchange rates (Aliber, 1970; Hood and Young, 1979, ch. 2; Gray, 1982). Firms in the stronger currency country will enjoy higher capitalization rates; that is to say, they will be able to capitalize the same amount of expected earnings at a higher rate – or to obtain loans for financing their operations at cheaper interest rates – than host country firms, other conditions assumed equal. This currency premium reflects the risk of a possible depreciation of the weak currency concerned and therefore it favours the flow of FDI towards weak currency countries. The resulting favourable treatment enjoyed by foreign investors in the weak currency host country constitutes a source of market bias for international investment flows. Tariffs are instead considered by the author as mere "transport costs" affecting international trade flows, not FDI.

According to Aliber, this theoretical interpretation of FDI is able to explain not only the general pattern followed by FDI, i.e. from industrial home countries to industrializing host countries, but also eventual 'reversals' of this pattern, such as in particular the Japanese and European FDI to the USA in the 1970s, determined by changes in real exchange rates and monetary policies leading to a decline in the market values of US firms relative to market values of firms with headquarters in other countries (Kindleberger and Audretsch, 1983, ch. 11).

The model can be criticized on various accounts because: (i) flows in the opposite direction are quite common; (ii) firm-size and other criteria often present greater capitalization rate differentials than those based on nationality; (iii) LDCs often lack real domestic capital markets, while they have established strict regulations of foreign exchange so that the resulting overvaluation of their currencies reduces or eliminates the gains to be derived from converting local earnings into the home country currency.

3. *Import-substituting Capital Flows*

In its most simplified version, the neo-classical assumption of free trade in commodities eliminates factor price differentials among countries and therefore any incentive to the international movement of production factors (Haberler, 1959, 'Introduction'; Ohlin, 1968, p. 214). In the Heckscher-Ohlin model, in particular, international factor immobility is explicitly assumed together with identical production functions across countries (with different relative factor endowments), perfect competition – and therefore no barriers to trade (transport, tariffs and marketing costs) –, efficient factor and product markets with constant returns to scale and absence of factor reversals, and finally general free and prompt availability of product and process specifications (information on production techniques). If all these conditions are present, trade offers the only possible form of international involvement (Dunning 1981, ch. 2; Hirsch, 1976).

To build up models suited to the analysis of FDI, even if still keeping a broadly defined comparative advantage framework, some of the above hypotheses had to be removed. Mundell's partial equilibrium model represents perhaps the first major contribution in this direction (Mundell, 1957) [2]. Mundell removes from the neo-classical set of assumptions that envisaging international immobility of capital (while labour is kept completely immobile) and presents an extreme case of tariff-induced capital movements. The capital flows envisaged are in fact basically of the 'import-substitution' type, i.e. capital flows which replace previous trade flows from the home country

[2] Rybczynski was the first to extend Heckscher-Ohlin theory by introducing some dynamic elements, as changes in factor endowments and in the composition of industrial outputs. However, Mundell's model constitutes the first general attempt to identify a relationship between international trade and capital movements, under certain circumstances (see Ozawa, 1979). The term 'capital flows' or 'capital movements' with reference to Mundell's article, instead of FDI, is of relevance for a correct interpretation of this model, as will be mentioned later in the text.

to the host country (Goldberg, 1983, ch. 12; Dunning, 1981). Although he recognizes the existence of an imperfect substitution between trade and capital flows, Mundell argues that, under certain particular assumptions, perfect substitutability is feasible so that "commodity price equalization is sufficient to ensure factor price equalization", and vice versa. In a 2-country, 2-commodity and 2-factor model, he shows how the introduction by a capital-scarce country of impediments (including higher transport costs) to the import of capital-intensive goods, after an eventual initial stage of self-sufficiency (with changes in the composition of production and shift to a lower level of global consumption), leads to changes in the marginal products of the two factors in both markets. This encourages an inflow of capital from the capital-abundant country, up to the point that commodity and factor-price equalization is re-established between the two countries (given specific assumptions relative to their production functions). At that point the 'marginal product of capital' becomes equal in both countries, and the scope for trade and for tariffs ceases to exist, as the capital-scarce country can now produce enough to both satisfy the internal consumption and service the foreign-owned capital (with interest payments assumed equal to the value of the marginal product of the capital inflow). If the two countries are interdependent, that is if also the capital-abundant country's domestic commodity and factor prices are affected by the new tariff, then the tendency towards self-sufficiency is strengthened in both countries by price variations in opposite directions [3].

Various criticisms can be levelled against Mundell's model. Although he briefly mentions the problem, Mundell seems to overlook the need for a distinction between financial capital flows and FDI. Following the Rybczynski theorem, his model presupposes that the inflow of capital in the capital-scarce country raises the absolute level of the capital-intensive production while lowering that of the labour-intensive production. The author's principal concern is therefore addressed towards the redeployment of production factors in the country/countries concerned. According to Kojima, this relocation can only arise as a consequence of "international movements of monetary capital", while FDI has rather different effects (changes in the production of a specific industry in the host country), since it implies imported technological and managerial inputs, besides financial capital (Kojima, 1978, p. 42). However, Kojima's interpretation can not be fully accepted, in

[3] Relaxing the assumption of constant returns to scale, Mundell argues how, under certain conditions, external economies of scale may favour a further international redistribution of welfare, in terms of capital endowment and level of the marginal product of labour. This case is however only marginally tackled (MUNDELL, 1957: sec. 4).

view of Mundell's definition of capital as a "physical, homogeneous factor which does not create any balance-of-payments problems when it moves internationally" (Mundell, 1957, p. 322). Mundell's definition of capital allows to keep the neoclassical assumption of factor and commodity price equalization. However, some authors have stressed the need to distinguish real capital from other factors of production, since, unlike labour and land, capital should be treated as heterogeneous and specific and analysed in terms of rate of interest on its productive assets rather than on such technical units as 'marginal product' (Harcourt, 1977).

With regard to the determinants of FDI, moreover, a lacking element in Mundell's analysis is represented by the neglect of some basic factors which influence the direction of international capital flows. These factors are identified by previous authors with international differences in interest rates and depreciation charges, given the period envisaged for capital to remain in the host country and to yield its higher return. Other factors which can eventually counterbalance the just mentioned ones are represented by risk of high taxation, currency depreciation or political upheavals (Iversen, 1936). Another unclear aspect is constituted by the last stage of the model, when the capital-scarce country is supposed to continue to use its excess production capacity in order to fulfill its interest payment commitments (the opposite case represented by the other country, if the 'relative size' hypothesis is introduced). Such a conclusion appears inconsistent with Mundell's observation regarding the interruption of the stream of capital flows as soon as the equilibrium conditions are re-established (ibid., p. 325). Lastly, the author himself recognizes that the "normal" case, namely when changes in the marginal products of both production factors in the tariff-raising country take place as indicated above, would not apply should the terms of trade-effects of the tariff exceed the internal production-effects.

4. *Trade-oriented FDI*

A more recent theoretical contribution also based on the comparative advantage is Kojima's model of "trade-oriented" FDI, later on developed by other Japanese scholars. According to Kojima, "an integrated theory of international trade and direct investment is missing, since each is separately treated" (Kojima, 1978, ch. 1) or considered as a substitute of the other, like in Mundell's model (although the latter is not properly dealing with FDI). Kojima argues instead that FDI should be possibly complementary to trade, in the sense that it should strengthen the comparative advantage of

trading partners. More precisely, in the case of less developed countries (LDCs), FDI should provide capital and management skills so as to activate previously unexploited resources. This process requires continuous upgrading of the industrial structures of both countries and "harmonious" trade between them.

Using a 2-country and 2-sector model, Kojima shows how FDI directed to the host country's sectors characterized by comparative advantage raises total gains from trade (i.e. the static gains of the conventional theory plus dynamic gains due to the productivity increase in the commodity concerned), while the opposite result is achieved when FDI disregards comparative advantages (dynamic gains act against static gains from trade, followed by reduction in comparative cost differentials, or even equalization or reversal of the same). Therefore, a clear-cut distinction emerges between "trade-oriented" FDI and "anti-trade-oriented" FDI, with most Japanese FDI belonging to the former type and US FDI to the latter. Given their basic difference, these two types of FDI must be explained by separate theories. In the first, FDI and international trade respond to the same logic (respectively, comparative costs and comparative profit rates for the same industry in different countries), in the context of a competitive market with managerial resources highly mobile domestically and internationally. In the second, on the contrary, FDI is to be analysed according to neo-factor proportions theories (considered later in this text) within the context of an oligopolistic market in which managerial resources increasingly appear as "specific" production factors [4].

The following conclusion can be drawn from Kojima's model. Firstly, trade-oriented FDI, because of its very nature, never results from trade barriers, but mainly from the evolution of the international division of labour, in which "Japanese-type direct foreign investment plays the role of initiator and tutor in industrialization of less developed countries", providing technology, management and marketing skills. Once this transfer of

[4] This drastic dychotomic distinction between two different patterns of FDI is not shared by other authors. According to neo-factor proportions theories, 'managerial resources' represent a bundle of technology, material and human capital, and managerial skills. As opposed to labour, which is considered an internationally immobile general factor, managerial resources are seen as an internationally mobile industry-specific factor. This hypothesis is relaxed by Kojima in the case of Japanese type-FDI.

In spite of the just outlined distinction, also the Japanese author recognizes the existence of an incomplete overlapping between the kind of market structure and the relation of FDI versus trade: there is in fact the possibility that FDI flows arising from an oligopolistic market structure are also complementary to trade or 'trade oriented'. This is the case of natural resource-oriented FDI, to be considered later on in section 5.

managerial resources is completed, Japanese 'traditional' firms should gradually fade away while FDI should shift to more sophisticated intermediate products, ultimately fostering a network of intra-industry specialization among the countries involved (Kojima, 1978, ch. 1).

Secondly, Japanese firms use FDI in order to overcome difficulties in the internal as well as in foreign markets: marginal firms in labour-intensive industries or in declining heavy industries are forced to relocate abroad as a consequence of shifting comparative advantages. In this case Japanese FDI would differ from US FDI in several respects: smaller average size; higher share of low-technology undifferentiated products; easier and more appropriate technology transfer; prevalence of "group" investments, mostly with minority-owned and joint venture operations involving government agencies and government-affiliated financial institutions; frequent use of long-term contracts for local resource supply; higher geographical concentration in LDCs, and, within LDCs, higher sectoral concentration in manufacturing than in extractive industry (Kojima, 1978; Lassudrie-Duchène et al., 1982, ch. 1; Momigliano and Balcet, 1984; Halbach, 1983) [5]. According to Kojima, these characteristics should guarantee a more harmonious international division of labour, permitting an acceleration of the needed internal adjustments both in Japan and in the host countries. They should also strengthen Japanese investing firms' competitivity vis-à-vis the larger transnational enterprises (TNEs) of other industrial countries.

Thirdly, and this is a point which is usually overlooked by critics of Kojima's approach, it is necessary to control the pace and the size of FDI flows: an "overpresence" or too rapid inflow of FDI in relation to host country-size, industrial concentration, etc., could hinder or even nullify their positive effects for both partner countries, since it would be more difficult

[5] Taking into account the actual performance of Japanese FDI as it appears in official statistics, a rather striking difference can be found between the Japanese involvement in LDCs and that of other industrial countries. More than 50% of the value of FDI from Japan at the end of the last decade was found in LDCs, while more than 70% of the value of other industrial countries' FDI flows occurred among themselves. Similarly, more than 85% of Japanese-owned affiliates were based in LDCs, while the corresponding average figure for other industrial countries was nearly 25%.

One has however to take into consideration on the one hand the different methods of data collecting of FDI in different countries (Japanese statistics do not include sales subsidiaries which are concentrated in developed countries, while most production subsidiaries are located in LDCs), on the other hand the existence of a sometimes not irrelevant degree of disparity, beyond the average figures, among other OECD countries themselves. Finally, Japanese TNEs' subsidiaries in LDCs are usually smaller and more numerous than those of other industrial countries.

or there would be no sufficient time to carry on the needed structural adjustment [6].

Following Kojima's analysis, other peculiarities of the Japanese FDI have been further investigated by T. Ozawa, primarily with regard to the new forms of FDI and the supporting role played by the trading companies (Ozawa, 1979). Ozawa points out that, in contrast with the fundamentally microeconomic factors which largely determine FDI from other industrial countries, especially from the USA, internal and external macroeconomic factors have somehow counterbalanced the microeconomic "immaturity" of Japanese FDI to LDCs. The macroeconomic elements that characterize Japanese FDI are identified with the following features of the Japanese economic system: strong dependency on foreign markets, especially as far as imports on natural resources are concerned; rising environmental costs of industrialization; increasing prices of domestic production factors; growing protectionism against Japanese exports in world markets; and finally the incentives offered by LDCs to FDI directed to labour-intensive industries. Consequently, the explanatory value of the comparative advantage theory for Japanese FDI is less general than in Kojima's model, since Ozawa does not deny the presence of commercial reasons and the relevance of the neo-factor proportions hypothesis relative to oligopolistic market structures for Japanese FDI to industrial countries. For the rest, he maintains Kojima's "industry-cycle approach", based on the "economy-wide changes in a country's factor endowments", as opposed to the product-cycle approach.

The 'trade-oriented' FDI theory seems to contain various unclear and contradictory aspects. First of all, it has been argued by authors quoted by Ozawa himself that the pattern it envisages may be due to a series of "fortuitous circumstances" which took place in Japan in the late 1960s (namely a strong domestic demand, with less scope for FDI in some sectors; diffusion and strengthening of the trading company system; concentration in South East Asia of labour-intensive production activities). These doubts appear also supported by data relative to Japanese economic involvement in other regions of the world, data which seem to reflect only to a certain extent the model developed by Kojima and Ozawa (Yoshino, 1980; Negandhi, 1980; Pollak, 1983). Moreover, it is not clear what relationships can be established between different supposedly typical features of this kind of FDI: for instance, the small average size of Japanese firms investing in LDCs could be due to the fact that in Japan small-sized enterprises are

[6] Kojima develops a macroeconomic model of "overpresence" which considers static and dynamic implications of FDI on the local economy, and is partly referred to the experience of Japanese TNEs in South East Asia (KOJIMA, 1978, ch. 8).

relatively more numerous, and in this sense they do not necessarily constitute a 'marginal firm' phenomenon (if not in terms of technological sophistication and financial strength, at least in terms of scale of operation). Furthermore, although both authors develop their analyses using a macroeconomic framework, they tend to focus their attention mainly on sectoral implications, with little concern for externalities that could play a negative role in LDCs [7]. Another contradiction of these models concerns the degree of technological intensity, apparently referred to whole industrial sectors, but implicitly related to an intra-industry product level. Finally, the exploratory role of this theory has been challenged because of its "too simplistic frame of reference" and a rather uncritical acceptance of the neoclassical hypothesis of perfect competition, with its policy implications (Gray, 1982a).

5. *Export-promoting FDI*

The theories largely based on a microeconomic approach can be distinguished into two categories, according to whether they study FDI at the industry-level (features of oligopolistic industries), or at the individual firm-level (features of investing firms, such as size, profitability, R&D, product diversification) [8].

Among the industry-based studies, we find a theory in fundamental opposition with the logic of Mundell's model, since it envisages a case of complementarity between FDI and international trade, namely FDI oriented to export promotion, therefore in this respect anticipating Kojima's model. In fact, the partial equilibrium analysis of FDI in the extractive sector developed by Schmitz and Helmberger, by focusing on the characteristics of a specific industry, stresses the creation, through FDI, of vertically integrated production units and consequently the development of new trade

[7] The Japanese government treats private overseas investment as an integral part of Japan's development assistance and makes more active use of 'tied aid', as Ozawa himself admits. In this way, even if they are not registered as FDI as they do not directly imply management and ownership, direct overseas loans actually improve the control and bargaining power of Japanese firms in production activities in LDCs. In fact, when not directly offered to Japanese firms, these loans are often extended to local partners, so that the latter can acquire their own share of equity ownership. Joint ventures in LDCs also heavily rely on Japanese loans for import of plants and equipment, often offered by the parent company itself (PRASARTSET, 1984).

[8] An econometric study, carried out using data on US FDI in Canada, seems to suggest the sufficiency of two explanatory variables, 'size' of the firm and 'industry', being other factors considered implicit in them and therefore redundant (HORST, 1972).

flows of the extracted resources to the home country (Schmitz and Helmberger, 1970; Ozawa, 1979).

The hypotheses of this model differ from Mundell's one, since, besides the relaxation of the international capital immobility assumed by Heckscher-Ohlin [9], Schmitz and Helmberger envisage the presence of different production functions and demand patterns among different countries. In this framework, the lower the input costs abroad, in comparison with those of the home market, the greater the flow of international capital towards the capital-poor and natural resource-rich country. Moreover, due to structural differences between the two economies (mainly market size, population and income), the demand for the commodity concerned is assumed to be higher in the capital-rich country.

The principal merit of this model is to have introduced a precise distinction with regard to the kind of sectors to be dealt with and the types of international capital movements, i.e. stressing the role of human capital and know-how vis-à-vis Mundell's concept of capital flows. More recent studies tend to support the hypothesis by Schmitz and Helmberger that in general FDI flows ultimately generate additional trade, due to both vertical and horizontal integration processes (Dunning and Norman, 1983). Yet, such an assumption of FDI long-term effects on trade cannot be adequately tested.

6. *Industrial Organization Theories*

Industries characterized by oligopolistic market structures in both home and host countries form the object of another group of theories (Hymer-Kindleberger-Caves model: Ozawa, 1979). The main contribution of these theories consists in the introduction of new elements for the study of international trade and FDI, in order to overcome some of the drawbacks of the conventional factor proportions model.

An early contribution to understanding the establishment of the firm as a set of interdependent joint production and marketing units aimed at avoiding the costs deriving from open market transactions is provided by Coase (1937). Even if only in terms of cost minimization, his analysis gives specific motivations for an interpretation of internalization processes and anticipates in this way neo-technology and location theories, which can be consid-

[9] The authors however point out that, as capital exports of a long run nature may actually create balance of payments problems, "Mundell never really relaxed the assumption of international capital immobility" (SCHMITZ-HELMBERGER, 1970, and end of section 3 above).

ered as variants and extensions of the industrial organization theories. Due to contractual risks, taxes and reciprocal obligations, arm's length trade and subcontracting arrangements may appear too costly and inefficient, while the traditional type of FDI (wholly-owned subsidiary) may offer the only possibility to capture the rent accruing from these specific advantages (Hood and Young, 1979, ch. 2). According to Coase, the growth of trade transactions within the firm is limited by increasing costs of internal organization.

Hymer distinguishes between international investment which can be still explained within traditional 'interest rate theories' (portfolio investment) and FDI, for which new theoretical insights are needed (Hymer, 1976, ch. 2). Emphasis is put on countervailing firm-specific advantages of the investing firms which are supposed to offset the disadvantages due to the costs of operating abroad and the ignorance of local markets (Buckley and Casson, 1976, ch. 3). Sources of oligopolistic advantage favouring the emergence of FDI in specific industries, and therefore allowing them to retain market control and/or to obtain higher profits, are identified with product differentiation processes, plant economies of scale, brand names, special marketing and managerial skills, patented technology, different access to capital markets and pricing collusion. These factors work together to create barriers to competitiveness for local suppliers, so that FDI and international trade can be considered as complementary strategies for the TNE. In fact, FDI as well as international trade in differentiated and vertically integrated products allow firms to retain imperfect market structures by reducing the sensitivity of their market share to potential rivals' price strategies (Caves, 1974).

7. *Product-life Cycle*

One of the first attempts to study the subject with a microeconomic approach at the enterprise level can be attributed to Vernon in his product-life cycle model. The sequential pattern of this model explains trade and FDI flows in terms of both supply and demand characteristics of particular products (innovation stage, maturity or export stage, and standardization or FDI stage). In its initial formulation the model comes to implications similar to the 'import-substitution' approach, even though here emphasis is set upon unequal international distribution of knowledge instead of the simple Mundellian concept of capital. In fact, the possession of a product innovation first helps the firm to export that product and later, because of international factor price differences, to trasfer its production directly into import-

ing nations. In a later extended version of the same model, however, a further stage is envisaged, beyond the import-substitution phase, a stage in which the TNE's production unit in the host country has reached sufficient scale economies to supply not only the local market, but also to export to foreign markets (thus turning to a model closely related to that by Schmitz-Helmberger) (Goldberg, 1983, ch. 12). A further refinement leads Vernon to introduce more explicitly oligopolistic elements and different forms of FDI (Vernon, 1974).

Vernon's approach, especially in its original version, is useful for explaining the earlier stages of a multinationalization process for specific finished products and geographical contexts, such as the post-war expansion of US FDI in Europe. Actually, according to the author himself, the explanatory value of this model is presently restricted to FDI flows from European and Japanese firms to LDCs, thus excluding the analysis of other FDI streams (Vernon, 1979).

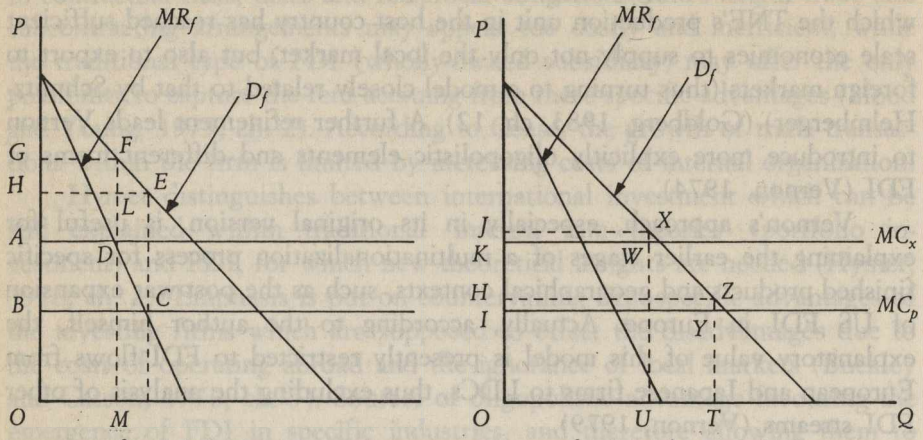
8. *Location Choices*

Other models have been developed to try to explain the behaviour of the international firm when facing the choice between exporting and overseas production. Horst has developed first a partial equilibrium model of tariff-induced FDI (Caves, 1982, ch. 2), but in its subsequent elaboration he tackles a broader perspective, namely the rationale for TNEs with some monopolistic power in a foreign market to select one of the two strategies mentioned taking into account two alternative, but interdependent, objectives, i.e. profit-maximization and foreign sales-maximization (Horst, 1974; Hood and Young, 1979, ch. 4).

The two situations are synthetically described in Figure 1, where marginal costs of exporting and of foreign subsidiary production are supposed constant. In the case of profit-maximization, the choice between the production level corresponding to point *C* or *D* (foreign production or export, respectively) depends on the relation between savings in variable supply costs and fixed costs of foreign production. In the specific case considered, in fact, profit maximization and cost minimization give equivalent results, since marginal costs are constant and equal average costs: total costs are given by the respective areas underneath and vary according to the price elasticity of demand (given the relation between demand and marginal revenue) [10]. From a static point of view, if the area *ABCD* is greater than F_p, the

[10] The approach presented in the text has been developed by HORST (1974). The area

FIGURE 1. *FDI* and international trade according to two alternative hypotheses (Horst's theory of the firm)



D_f = foreign country's demand curve

MR_f = marginal revenue from foreign sales

MC_x = marginal cost of exporting (including tariff and transport costs)

MC_p = marginal cost of subsidiary production

F_p = fixed overhead production costs (not represented in the graphic)

firm should invest abroad, while in the opposite case it should continue operating through international trade. However, even in the latter case, due to the possibility of decreasing fixed production costs in the long-run, i.e. in a dynamic setting, a reversal in this relation may appear, thus causing a shift from export to foreign production (notice that F_p is supposed to comprise costs of control and co-ordination of the foreign production activity, costs that may be realistically expected to decline over time for an individual firm

ABCD in Figure 1 is indicated by Horst as the difference between (variable) costs of exports and of foreign production, since the author considers the two alternative strategies at point *M*, which is the mean of the distance between the two production equilibrium levels. As an anonymous referee of this paper points out, a more correct and precise interpretation of the choice of the firm would be the following: the areas ($HECB - F_p$) and *GFDA* representing profits related to overseas production and exports, respectively, the result is rather in favour of the former than the latter strategy if the difference, i.e. ($ABCD + LDCE - GFLH - F_p$), is positive rather than negative.

engaged in international trade). In the case of foreign sales maximization, minimal profits result as a constraint, and therefore an export strategy must find the point where the area *JKWX* is minimally acceptable, while a foreign production strategy will also make the equilibrium point shift to the right up to where *HIYZ* is minimally acceptable. In Figure 1, *JKWX* is the minimally acceptable profit for the foreign trade strategy, while *HIYZ* can represent the same for the alternative strategy of a foreign production if F_p is subtracted. The choice will depend on which of the two situations allows a larger sales volume, i.e. on the comparison between the areas *OJXU* and *OHZT*, and also in this second case fixed production costs can be expected to decrease. Horst's main conclusion is that, unless further information is provided on firm's cost and demand conditions, it is impossible to say whether a firm should pursue the former rather than the latter objective, since both goals imply the same long-term strategy, i.e. FDI.

Although this model appears rather simple and does not foresee the possibility that a firm may either change strategy during the sequential pattern involving international trade and FDI, or divest, still it seems useful for a more comprehensive interpretation of different situations, especially where various price elasticities of demand are taken into account. However, it fails to consider separately the conditions preliminarily needed for undertaking FDI and other factors which can make an FDI operation not only feasible, but also desirable (Casson, 1982a).

Based on similar assumptions, Hirsch has formulated another interesting microeconomic model of location choices (Hirsch, 1976; Hood and Young, 1979, ch. 4), which envisages a firm's initial FDI decision with respect to a single product as an alternative to its export. The firm is supposed to have specific revenue-producing factors in the form of intangible proprietary assets (technological and managerial know-how and capability of product differentiation) and to face in the international market various costs due to the economic distance (information, communication and transaction), so that all assumptions of the neoclassical international trade model are removed. Calling P_a and P_b the production costs in country *A* and *B*, *K* the firm-specific know-how, *M* the export marketing cost differential (that is the difference between export and domestic marketing costs, which is always positive), and *C* the costs of control (that is the difference incurred by the firm in managing and coordinating foreign rather than domestic operations, which is also assumed to be positive), *M* is considered as a trade-inhibiting factor, *C* an FDI-inhibiting factor, while the possession of *K* is assumed to give a temporary monopoly power to the firm. Given certain assumptions relative to the internal equilibrium conditions of the two countries, Hirsch

suggests some basic decision rules in order to explain the cost-minimizing behaviour of an *A*-based firm facing the alternative to enlarge its production activity either domestically or in the foreign market (country *B*), in view of an excess demand in the latter. The model comes to two principal conclusions: (i) at the enterprise level, FDI will occur particularly in industries with a greater presence of *K*-intensive and/or *M*-intensive firms; (ii) at the country level, the investing firm shall be export-oriented rather than FDI-oriented if the foreign market is a high cost country, and the opposite if the foreign market is a low cost-country.

In spite of its undoubted originality, Hirsch's model does not offer a precise description of the firm-specific advantages; moreover, the author seems to renounce to develop an equivalent rigorous treatment of the 'post-investment' strategy, particularly if multi-product FDI and intra-firm trade should arise [11].

The location theories of the firm have been further developed by some authors who analyse conditions internal and external to the firm which allow them to keep and eventually increase their market control. Penrose indicates in the horizontal and vertical integration of the firm engaged in international activities the means to overcome changes in demand or in market structure (preventing competitive pressures), and she underlines also the role of 'artificial' barriers to entry, such as control over technology or raw materials needed, special relations with distributors and 'price wars' (Penrose, 1980, ch. 11). Similarly, Eichner proposes the distinction among three types of barriers to entry: (i) economies of scale, due to the attainment of minimum size at the individual plant and firm level; (ii) absolute cost advantages, arising from the control of specific technical and financial assets; and (iii) product differentiation, which is accompanied by strong "customer loyalty" (Eichner, 1976, ch. 3). However original these further contributions can be (fact which Eichner himself seems to doubt – ibid.: 'Preface' –), they do not appear concerned with a detailed examination of possible relationships between international trade and FDI.

9. *Eclectic Approach*

Macroeconomic and microeconomic approaches appear intertwined in a more complex way in few recent theories which try to combine and to

[11] In this regard, a model drawing from Hirsch's contribution and considering jointly specific aspects of international trade connected with FDI has been recently developed by MAINARDI (1986).

further develop various of those elements contributed by the theories previously analysed, in an effort to solve some of the problems left by the latter.

In order to overcome some drawbacks of the industrial organization theories, Buckley and Casson have developed a theory of internalization of intermediate R&D-intensive products, where emphasis is set no more, or not only, on general market imperfection, but on various factors specific to the individual firm, industry, region, and nation. Denying the hypothesis of surplus capital/managerial resources as a sufficient factor for explaining FDI, they stress the necessity to consider the internalization process as the result of the interplay of different agents (Buckley and Casson, 1976; Hood and Young, 1979, ch. 2; Momigliano and Balcet, 1984).

Dunning completes and generalizes this theoretical framework, trying to integrate various elements of the neo-factor proportions, the neo-technology, the industrial organization and the location theories. According to Dunning, internalization derives from the existence of different complementary features, corresponding to complementary theories of FDI (Dunning, 1981, chs. 2-3-14). There are location-specific advantages, not dependent on the size and the nationality of the firm, consisting in Ricardian-type assets and other particular aspects tied with the social, legal and commercial environment, and there are ownership-specific advantages, represented by some proprietary rights of individual firms (commercial monopoly, surplus entrepreneurial capacity, economies of joint production and marketing, etc.). They can determine jointly a sort of push-and-pull effect on FDI, so that "the more the ownership-specific advantages possessed by an enterprise, the greater the inducement to internalize them, and the wider the attraction of a foreign rather than a home country production base, the greater the likelyhood that an enterprise will engage in international direct investment" [12]. In this perspective, various stages of international involvement for an individual firm are envisaged, from simple export activity up to integrated control of a production unit located abroad, passing through various non-equity and equity participation forms. Dunning suggests that (i) there exists a correlation between the level of foreign involvement, as here described, and the rate of return to the TNE in the host country, especially in high R & D intensive industries, a conclusion the implications of which are rather simi-

[12] Besides those just mentioned, there are also internalization factors which can increase a firm's profitability more than the externalization of its proprietary assets can do, through licensing agreements or management contracts. They can be however considered as a consequence of the interaction of ownership and location specific advantages, although in some articles Dunning tends to treat them as a third separate set of specific advantages.

lar to those reached by the two location choice models presented above; and (ii) the higher the "steps" between the various stages, the greater the scope for the host country government to regulate foreign firms' activity.

Other authors have utilized Dunning's model in various ways: Rugman to deepen the analysis as far as non-equity forms of foreign investment are concerned, given the type of products and the features of the foreign market (Rugman, 1982a); Casson and Giddy-Young to explain the new forms of TNEs and FDI with regard to firm-size, type of sector and country of origin (subject already analyzed by the Japanese scholars, as previously seen) and to broaden concepts related to monopolistic advantage and internalization (Casson, 1982b; Giddy and Young, 1982); and Gray to emphasize location-specific variables (Gray, 1982b).

Some of these authors recognize the difficulties and the limits of this approach, since it derives from an explicit attempt at integrating two theories (international trade versus international firm) which in their original formulations assume different analytical frameworks and optimal resource allocation patterns and it even risks to incur in an "empirical foray" (Gray, 1982a). The approach has been criticized also because of its hypothesis of a 'one-way' evolution of the international involvement of the firms, from externalization to internalization, an evolution hindered eventually only by host country government's policies (Momigliano and Balcet, 1984). However, this approach at least has the merit of introducing a 'smoothing' element into the present theoretical debate on TNEs, FDI and international trade, while avoiding some of the inconsistencies which characterize less flexible models.

10. *Conclusions*

Notwithstanding their shortcomings, the theories considered in this survey certainly contribute to a better understanding of possible determinants of foreign investment and international trade. For an interpretation of TNE-related international trade, the location choice models and, in broader terms, those following a microeconomic or an 'eclectic' approach seem most useful. These models try to provide an insight into the decision-making mechanism of firms of different sizes and sectors, and, within a single sector, of firms producing different sets of goods. Theories based on a macroeconomic approach have the merit in their turn of trying to examine particular sector-specific and firm-specific features in view of more general characteristics of the economic system on the whole, even if in this way they

risk falling into too abstract and rigid distinctions of supposed country-specific patterns, as the theories proposed by Aliber, Mundell and Kojima seem to suggest.

Therefore, while 'macroeconomic' theories, in particular those developed by Japanese authors, tend to give an interpretation of FDI and TNEs' production and trade activities in LDCs relatively more related to the specific characteristics of TNEs' home countries, the other theories tend to emphasize other elements differentiating the behaviour of actual or potential investors.

The objections about the significance of 'macroeconomic' theories for explaining different patterns of FDI and TNE-related trade should be smoothed once the analysis turns to a wider scope. In fact, FDI always implies feed-back effects at the macroeconomic level, i.e. on international trade and production structures of the countries involved, through the influence exerted on various socio-economic aspects such as technological change, rate of capital growth, exchange rate variations, etc. Therefore, a macroeconomic approach to FDI and related international trade appears necessary for the analysis of the implications on host countries' balance of payments and structural adjustment processes.

On the whole, all the theories considered in the previous sections give rise to various criticisms and doubts relative to the excessive importance given to certain factors, such as currency areas (Aliber), tariff structures (Mundell), production and marketing costs at the macroeconomic or microeconomic level (Japanese 'school' and location choice models, respectively). Given the complex and heterogeneous features of the subject dealt with by these theories, more flexible and articulated models should be developed. However, as seen along this survey, following the evolution of the structural characteristics of FDI and TNE-related trade most of these theories have undergone a process of progressive refinement, by taking particularly into account recent changes in direction of flows, size and sectoral distribution of transnational firms, and kind of foreign production involvement.

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VALUTAZIONE DI DIFFERENTI APPROCCI E MODELLI TEORICI DI INVESTIMENTI DIRETTI ALL'ESTERO E COMMERCIO INTERNAZIONALE

Le teorie del commercio internazionale e quelle degli investimenti esteri sono tuttora scarsamente integrate le une dalle altre. D'altra parte l'interesse verso i possibili legami tra il commercio internazionale e gli investimenti esteri diretti è emerso soprattutto nella letteratura specializzata degli ultimi venti anni, parallelamente allo sviluppo di nuove forme di coinvolgimento estero delle imprese.

Differenti teorie offrono interpretazioni in parte contrastanti, in parte complementari, a seconda di quali fattori determinanti esse tendono a privilegiare. Alcune teorie, basandosi su un quadro di riferimento macroeconomico, considerano il ruolo dei tassi dicambio e dei rapporti tra diverse aree monetarie (Aliber) o quello di politiche protezionistiche (Mundell). Altre teorie ricorrono al principio dei vantaggi comparati e ai mutamenti nei modelli di produzione e di consumo, inserendo l'analisi di un contesto macroeconomico o microeconomico più complesso di quello ipotizzato dai modelli originali neoclassici (Kojima, Vernon, etc.). Altre teorie ancora propongono modelli di localizzazione per strategie alternative delle imprese (Horst, Hirsch), mentre alcuni autori mettono in rilievo aspetti specifici delle imprese impegnate in queste operazioni sui mercati esteri, eventualmente cercando di integrare questi aspetti con altri di natura localizzativa (Hymer, Dunning, etc.).

Nel complesso tutti i modelli esaminati si prestano a varie critiche ed obiezioni. In vista dell'attuale evoluzione dei commerci internazionali e degli investimenti esteri si rende necessario riformulare questi modelli in schemi interpretativi più solidi e completi, che tengano conto allo stesso tempo dei vari contributi di questi autori.

BANCA ANTONIANA DI PADOVA E TRIESTE

L'ASSEMBLEA APPROVA IL BILANCIO DELL'ESERCIZIO 1986 E L'AUMENTO DI CAPITALE A TITOLO GRATUITO

Si è tenuta sabato 4 aprile 1987, in Padova P.tta Turati n. 2, presso il Centro Servizi della Banca Antoniana di Padova e Trieste, l'Assemblea Ordinaria dei Soci per l'approvazione del bilancio dell'esercizio 1986.

Dinnanzi ai numerosi Soci presenti, il Presidente dell'Istituto, Dott. Gustavo Protti, ha svolto la relazione del Consiglio di Amministrazione, partendo come di consueto da una analisi della situazione economica generale per soffermarsi in un commento approfondito delle voci sottoposte all'uditorio.

Più che mai concreto e riscontrabile, è il costante sviluppo dell'Istituto che ha saputo ancora una volta espandere le proprie attività e la cui crescita è rilevabile dalle voci di bilancio:

– la raccolta da clientela ha superato 2.611 Miliardi; (2.425 Miliardi a fine esercizio 1985);

– gli investimenti commerciali hanno raggiunto 1361 Miliardi a fronte di 1191 Miliardi del passato esercizio, con costante attenzione per le piccole e medie aziende;

– i mezzi amministrati sono passati da 3500 a 3652 Miliardi;

– di rilievo anche la cosiddetta « raccolta indiretta » che è giunta alla considerevole cifra di 1467 Miliardi confermando la preferenza della clientela verso l'Istituto.

Il risultato complessivo della gestione ha permesso di consolidare la struttura patrimoniale dell'Istituto, che per effetto di accresciuti accantonamenti effettuati a vario titolo ha raggiunto la consistenza di 318 Miliardi.

L'utile netto di L. 32.056.682.058 consente di corrispondere un dividendo di L. 1200 per azione god. reg. (1100 per l'esercizio precedente) e L. 600 per le azioni god. 1.7.1986, nonostante l'accresciuto numero di azioni in circolazione.

Dopo l'approvazione del bilancio e del riparto dell'utile, l'Assemblea ha votato per il rinnovo delle cariche sociali, che ha visto la conferma dei Consiglieri scaduti.

Si è svolta inoltre l'Assemblea Straordinaria, che ha approvato la proposta del Consiglio di Amministrazione di assegnare una azione gratuita ogni venti possedute da ciascun Socio alla data del 31 marzo 1987.

Presidente dell'Istituto è il dott. Gustavo Protti, Direttore Generale il dott. Aniceto Vittorio Ranieri, Vice Direttori Generali il dott. Silvano Pontello, il dott. Alfredo Schiavo.

Il dividendo di L. 1.200 per azione god. reg. e L. 600 per azioni god. 1.7.1986 è già in pagamento presso tutti gli sportelli della Banca.

BILANCIO 1986

Lunedì 27 aprile si è svolta a Trento l'Assemblea ordinaria della Banca di Trento e Bolzano presieduta dall'avv. Dario Vettorazzi.
L'Assemblea, 52ª dalla fondazione, ha approvato le relazioni ed il bilancio presentati dal Consiglio di Amministrazione e dal Collegio Sindacale al 31 dicembre 1986.

VALORI DI BILANCIO (*)	31.12.86	Var. %
Massa amministrata	1249,0	+ 3,5
Depositi	1066,7	+ 5,0
Impieghi economici	579,5	+ 15,6
Titoli di proprietà	469,3	+ 9,3
Titoli di Clientela in deposito	784,8	+ 48,7
Utile d'esercizio	8,0	+ 73,9
Patrimonio e fondi diversi	94,6	+ 30,2

(*) In miliardi di lire

Il presente bilancio è certificato dalla Arthur Andersen come già avvenuto negli anni precedenti a far tempo dal 1983.

Banca di Trento e Bolzano

SVILUPPO Negli ultimi cento anni siamo cresciuti molto, grazie alla nostra tradizionale esperienza e volontà, tanto da essere diventati la Banca Popolare più grande del mondo. Andiamo fieri di aver raggiunto un traguardo così ambito. Più di 1.200.000 rapporti e più di 7.260 miliardi di lire di operazioni giornaliere rappresentano i risultati più significativi. Un patrimonio di oltre 1.600 miliardi è la garanzia per la sicurezza dei vostri risparmi. 377 sportelli in Italia e 7.328 persone sono ogni giorno al vostro servizio per ogni problema bancario e parabancario. Se operate all'estero, la nostra Filiale di Lussemburgo, la nostra partecipata al 100% Banca Interpopolare di Zurigo e Lugano e i nostri uffici di Rappresentanza a Bruxelles, Francoforte, Caracas, Londra, Madrid, Parigi, Zurigo, New York e Mosca vi aspettano con centinaia di nostri Corrispondenti, in ogni parte del mondo.

Banca Popolare di Novara

BANCA POPOLARE DI VERONA

Il 25 aprile si è tenuta l'Assemblea dei soci della Banca Popolare di Verona, che ha approvato la Relazione del Consiglio di amministrazione e il Bilancio dell'

ESERCIZIO 1986

I mezzi amministrati si sono evidenziati in **4.422** miliardi, di cui **3.209** rappresentano la raccolta dai clienti.

Gli impieghi diretti sull'economia hanno raggiunto **1.886** miliardi, con un aumento di **190** miliardi rispetto all'anno precedente; quelli a medio termine, posti in essere con il tramite degli Istituti di categoria delle Banche Popolari, ammontano a **245** miliardi. Le risorse finanziarie impiegate dalla Banca direttamente o indirettamente nell'economia hanno quindi superato **2.130** miliardi; i crediti di firma **197** miliardi.

Il portafoglio titoli di proprietà ammonta a **1.262** miliardi.

La consistenza del patrimonio: capitale sociale, riserve e fondi assimilati ammonta a **729** miliardi.

Il bilancio ha fatto risultare un utile netto da ripartire di L. **37.587.547.014** e il dividendo è stato deliberato nella misura di L. **1.400** per azione di nominali L. 500.

In sede straordinaria l'Assemblea ha inoltre approvato, salvo le omologhe di legge:

— l'aumento del capitale sociale in parte gratuito mediante assegnazione di una azione nuova ogni gruppo di 20 in circolazione al 31-12-1986 e in parte a pagamento con l'offerta in opzione, al prezzo di L. 49.000 ciascuna, di 3 azioni nuove pure ogni gruppo di 20 azioni;

— l'aumento del numero di consiglieri da 15 a 18, eleggendo Ugo Della Bella, Pietro Perissinotto, Giuseppe Randi.

Consiglio di amministrazione: Presidente Giorgio Zanotto; Vice Presidenti Giacomo Galtarossa e Francesco Pasti; Consiglieri: Alberto Bauli, Giovanni Pietro Biasi, Leonardo Gemma Brenzoni, Enzo Erminero, Mario Fertonani, Sergio Lombroso, Giuseppe Nicolò, Ferdinando Peloso, Luigi Andrea Poggi, Antonio Polin, Carlo Rizzardi, Giulio Cesare Tosadori.

Collegio sindacale: Presidente Giuseppe Bruni; Sindaci effettivi: Giovanni Benciolini, Giorgio Maria Cambié, Guido Ottaviani, Luigi Valotto; Sindaci supplenti: Giuseppe Parolini, Giovanni Tantini.

Collegio dei probiviri: Effettivi: Renato Gozzi, Carlo Vanzetti, Aldo Zenari; Supplenti: Marco Cicogna, Leopoldo Conforti.

Direttore Generale: Gianfranco Del Nero, **Vice Direttore Generale:** Elio Bragantini.

BANCA POPOLARE DI VICENZA

Società Cooperativa a responsabilità limitata - Sede in Vicenza - Contrà Porti, 12 -
Iscritta presso il Tribunale di Vicenza al nr. 2 Soc.
Capitale sociale e riserve al 31 dicembre 1986 - Capitale sociale versato lire 3.992.334.500
Riserve lire 214.490.782.208

Assemblea ordinaria dei Soci

Sabato 11 aprile 1987 si è tenuta presso la Sala Convegni del Centro Servizi della Banca l'assemblea ordinaria alla presenza di numerosi Soci. L'assemblea, presieduta dal dott. Giuseppe Nardini, ha approvato la relazione del Consiglio di Amministrazione, il bilancio ed il rendiconto economico dell'esercizio 1986 (120° dalla fondazione).

Dopo aver effettuato ammortamenti per lire 6.303 milioni, accantonamenti diversi comprese imposte sul reddito per lire 30.892 milioni e accantonamenti patrimoniali per lire 18.750 milioni, l'utile residuo da ripartire di lire 13.788 milioni consente la distribuzione di lire 1.550 per azione oltre alla costituzione di un fondo da destinare a opere di assistenza, beneficenza, cultura ed interesse sociale per lire 932 milioni.

La relazione sintetizza gli aspetti più significativi dell'economia nazionale e provinciale ed in particolare quelli dell'attività bancaria.

In tale contesto la Banca Popolare di Vicenza ha confermato costanti indici di sviluppo dell'attività che hanno portato ad un più che soddisfacente risultato della gestione.

In un quadro di competizione più serrata fra le banche la Popolare di Vicenza ha particolarmente puntato l'attenzione sullo sviluppo dei servizi.

La diversificazione degli investimenti finanziari delle famiglie ha portato necessariamente all'intensificazione delle attività di consulenza volte alla migliore gestione dei patrimoni.
Si colloca fra le nuove iniziative la partecipazione diretta, o tramite la partecipata ABK – Intermediazioni e Consulenze Finanziarie S.p.A. –, a consorzi di garanzia e collocamento di titoli azionari di nuova quotazione, mentre si è allargata la gestione dei patrimoni svolta tramite l'Unione Fiduciaria.

Attraverso la partecipata ARCA S.p.A. verrà lanciato tra breve il nuovo fondo ARCA 27, mentre la ABK Commissionaria S.p.A., altra partecipata, sarà lo strumento operativo per le operazioni di borsa.

Lo sforzo che la Banca sta compiendo nel quadro di una integrale ristrutturazione organizzativa è proseguito intenso anche nel 1986 e avrà compimento nel corso del 1987. Tale processo ha interessato tutti i settori toccando: normativa, hardware, software, procedure applicative, formazione del personale, ambiente di lavoro. Particolarmente intensa l'attività nel campo dei sistemi di pagamento (ricevuta bancaria elettronica e disposizione elettronica di pagamento) già compiutamente realizzati tramite reti interbancarie. Anche sul piano della telematica (home banking, cash management, self-service, point of sale) i progetti sono in fase di ultimazione.

Prosegue lo sviluppo territoriale dell'Istituto che tra breve aprirà una Sede a Padova, una Succursale a Castelfranco Veneto ed altri due sportelli in provincia di Vicenza; a ciò si aggiungerà l'apertura di un Ufficio di Rappresentanza a Milano.
Assieme ai partners del Gruppo Nordest verrà aperto quanto prima un Ufficio di Rappresentanza a Hong Kong che si aggiunge a quelli di Roma e Londra.

Un argomento trattato nella relazione è quello delle fusioni delle banche classificate medio/piccole. È un problema che negli ultimi tempi anche la Banca d'Italia ha affrontato esprimendosi con favore verso il processo di concentrazione.
È convincimento della Banca che la linea per raggiungere una migliore efficienza del sistema del credito popolare passi attraverso l'unificazione delle Banche Popolari della Provincia al fine di creare un polo omogeneo molto radicato nel territorio e in possesso di una quota di mercato importante.
Il nuovo organismo raggiungerebbe ragguardevoli dimensioni; ma al di là delle dimensioni avrebbe un "peso specifico" di rilievo nell'economia vicentina della quale sarebbe al servizio in modo capillare e intenso.
Per questo motivo la Banca ha compiuto, e sta compiendo, passi volti a verificare la possibilità di fusione con altre consorelle della Provincia.

Dopo le votazioni da parte dell'assemblea e le deliberazioni del Consiglio di Amministrazione le cariche sociali risultano così costituite:

Consiglio di Amministrazione: Presidente Giuseppe Nardini; Vice Presidenti Giovanni Bettanin e Giancarlo Ferretto; Consigliere Segretario Luigi Turato; Consiglieri Marino Breganze, Umberto Frigo, Giorgio Macerata, Attilio Maraschin, Gianfranco Rigon, Giovanni Stefani, Pierluigi Tapparo, Giorgio Tibaldo, Glauco Zaniolo, Marcello Zanon e Giovanni Zonin.

Collegio Sindacale: Presidente Giuseppe Rebecca; Sindaci effettivi Giacomo Cavalieri e Antonio Zanarotti; Sindaci supplenti Gianfranco Simonetto e Giovanni Zamberlan.

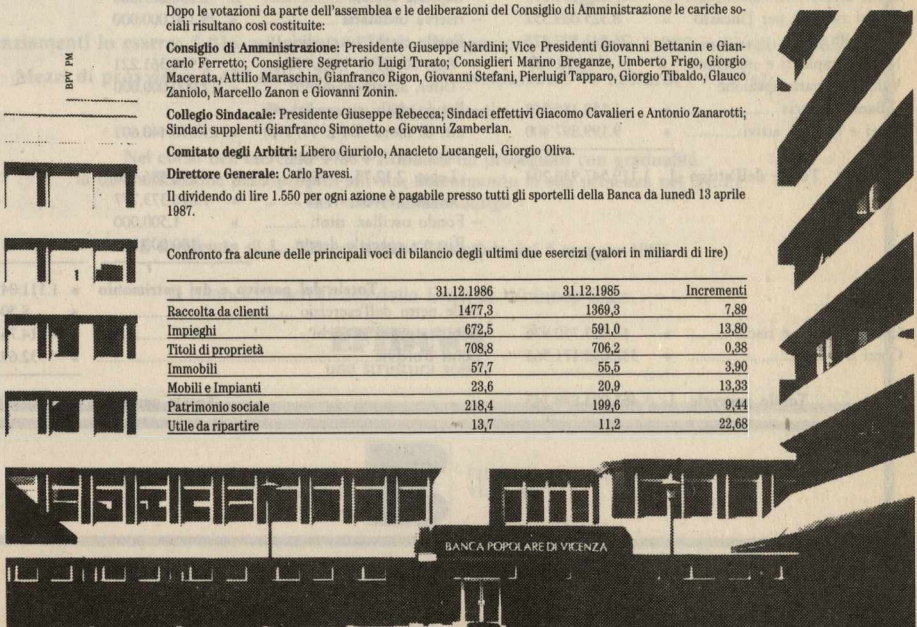
Comitato degli Arbitri: Libero Giuriolo, Anacleto Lucangeli, Giorgio Oliva.

Direttore Generale: Carlo Pavesi.

Il dividendo di lire 1.550 per ogni azione è pagabile presso tutti gli sportelli della Banca da lunedì 13 aprile 1987.

Confronto fra alcune delle principali voci di bilancio degli ultimi due esercizi (valori in miliardi di lire)

	31.12.1986	31.12.1985	Incrementi
Raccolta da clienti	1477,3	1369,3	7,89
Impieghi	672,5	591,0	13,80
Titoli di proprietà	708,8	706,2	0,38
Immobili	57,7	55,5	3,90
Mobili e Impianti	23,6	20,9	13,33
Patrimonio sociale	218,4	199,6	9,44
Utile da ripartire	13,7	11,2	22,68



Banca Sicula S.p.A.

FONDATA NEL 1883

Capitale Sociale L. 2.630.285.000 - Riserva L. 32.285.000.000
Iscritta al n. 1 del Registro Imprese Tribunale di Trapani
SEDE SOCIALE E DIREZIONE GENERALE IN TRAPANI

BILANCIO AL 31 DICEMBRE 1986 - 104° Esercizio

ATTIVO

Cassa e valori esig. a vista	L.	9.075.094.573
Altri valori in cassa	»	14.723.482.903
Depositi presso ist. credit.	»	298.222.916.601
C/c con ist. creditizie	»	43.675.865.129
Certificati di deposito	»	10.000.000.000
Titoli di proprietà	»	184.643.167.225
Partecipazioni	»	1.987.520.059
Portafoglio	»	45.947.722.225
C/c attivi a breve termine	»	247.451.716.646
Finanz. a medio term. in c/c	»	3.737.362.829
Mutui ipotecari	»	25.933.973.467
Altre sovvenzioni	»	26.235.726.702
Valori d'investimento del F. Liq. Pers.	»	238.508.497
Conti diversi	»	147.165.171.873
Effetti ricevuti per l'incasso	»	8.325.089.352
Immobili	»	26.543.307.875
Mobili, impianti e macchine	»	14.891.028.100
Valore ex partecipazione Banca Agraria	»	1.550.384.748
Ratei e risconti attivi	»	9.199.897.400
Totale dell'attivo	L.	1.119.547.936.204
Conti impegni e rischi	»	14.763.750.976
Conti d'ordine	»	332.692.171.563
Totale generale	L.	1.467.003.858.743

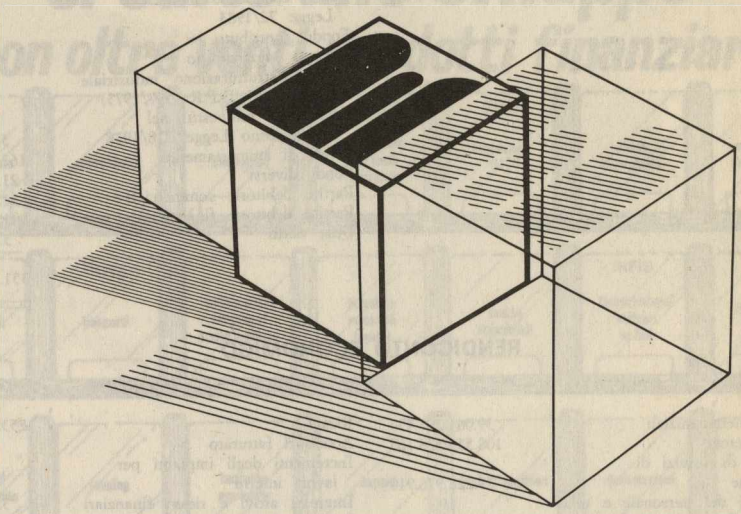
PASSIVO

Depositi a risparmio	L.	737.775.687.056		
C/c con clienti	»	140.954.901.583	L.	878.730.588.639
Depositi e c/c con ist. creditizie			»	36.522.353.287
Fondi di terzi in amministrazione			»	1.558.028.833
Assegni in circolazione			»	43.600.237.746
Conti diversi			»	21.732.167.809
Cedenti effetti al dopo incasso			»	6.612.702.238
Fondo liquidazione del personale			»	16.291.761.576
Fondo imposte e tasse			»	6.945.000.000
Fondo imposte e tasse tassato			»	1.991.000
Fondo ammortamento immobili			»	3.553.177.790
Fondo amm. mobili, imp. e macch.			»	6.544.567.444
Ratei e risconti passivi			»	2.963.262.284
Fondo valore ex partecipaz. Banca Agraria			»	1.550.384.748
Totale del passivo			L.	1.026.606.223.394
Patrimonio:				
– Capitale sociale	L.	2.630.285.000		
– riserva ordinaria	»	29.150.000.000		
– Fondo rischi su crediti:				
- Art. 66 DPR 1973/597	»	8.930.361.221		
- Ulter. accantonamento	»	12.000.000.000		
– Fondo rischi su crediti per int. di mora (DPR 79/170)	»	23.858.440.601		
– Saldi attivi di rivalutaz.:				
- Legge 2-12-75, n. 576	»	150.586.320		
- Legge 19-3-83, n. 72	»	7.616.373.777		
– Fondo oscillaz. titoli	»	1.500.000		
– Riserva speciale destin.	»	100.000.000	»	84.437.546.919
Totale del passivo e del patrimonio			»	1.111.043.770.313
Utile netto dell'esercizio			»	8.504.165.891
Conti impegni e rischi			»	14.763.750.976
Conti d'ordine			»	332.692.171.563
Totale generale			L.	1.467.003.858.743

EFIBANCA

Bilancio '86

EFIBANCA GUARDA AL FUTURO



Finanziamenti in essere: 5.016 miliardi (+12%) **Erogazioni dell'anno: 1.985 miliardi (+36%)**

Mezzi di provvista: 5.474 miliardi (+3%) **Partecipazioni: 76 miliardi (+29%)**

Patrimonio: 506 miliardi (+8%)

Nel corso dell'esercizio 1986 l'Efibanca ha proseguito con gradualità la diversificazione della propria attività, accentuando la sua presenza nel settore del «merchant banking»

Il dividendo di L. 700 per azione è pagabile dal 5 maggio 1987

Il bilancio è certificato dalla Ernst & Whinney S.a.s.

EFIBANCA
una struttura solida

SEDE 00198 ROMA
VIA PO 28/32

FILIALE 20122 MILANO
VIA LARGA 23

elettrocarbonium

Società per azioni - Viale della Liberazione, 18 - 20124 Milano
Capitale Sociale: L. 50.000.000.000

BILANCIO AL 31 DICEMBRE 1986 - 90° esercizio

SITUAZIONE PATRIMONIALE

ATTIVO		PASSIVO	
Beni immobili e mobili	219.219.573.470	Capitale sociale	50.000.000.000
Magazzini merci	40.496.869.268	Fondo di riserva legale	2.585.332.075
Partite creditorie commerciali	88.084.524.892	Fondo di riserva straordinaria tassato	424.797.318
Partite creditorie finanziarie	3.515.292.629	Fondo rischi su crediti tassato	5.416.379.278
	351.316.260.259	Fondo rinnovo impianti tassato	1.000.000.000
		Fondo conguaglio monetario Legge 72/1983	
		Fondo contributo ex Cassa Mezzogiorno	5.038.819.000
		Fondo ristrutturazione industriale (ex art. 55 D.P.R. 597/1973)	626.630.793
		Fondi utili reinvestiti nel Mezzogiorno Legge 218/1978	5.000.000.000
		Fondi di ammortamento	162.796.194.491
		Fondi diversi	21.236.448.107
		Partite debitorie commerciali	51.633.313.675
		Partite debitorie finanziarie	41.780.524.345
		Utile netto	3.777.821.177
			351.316.260.259

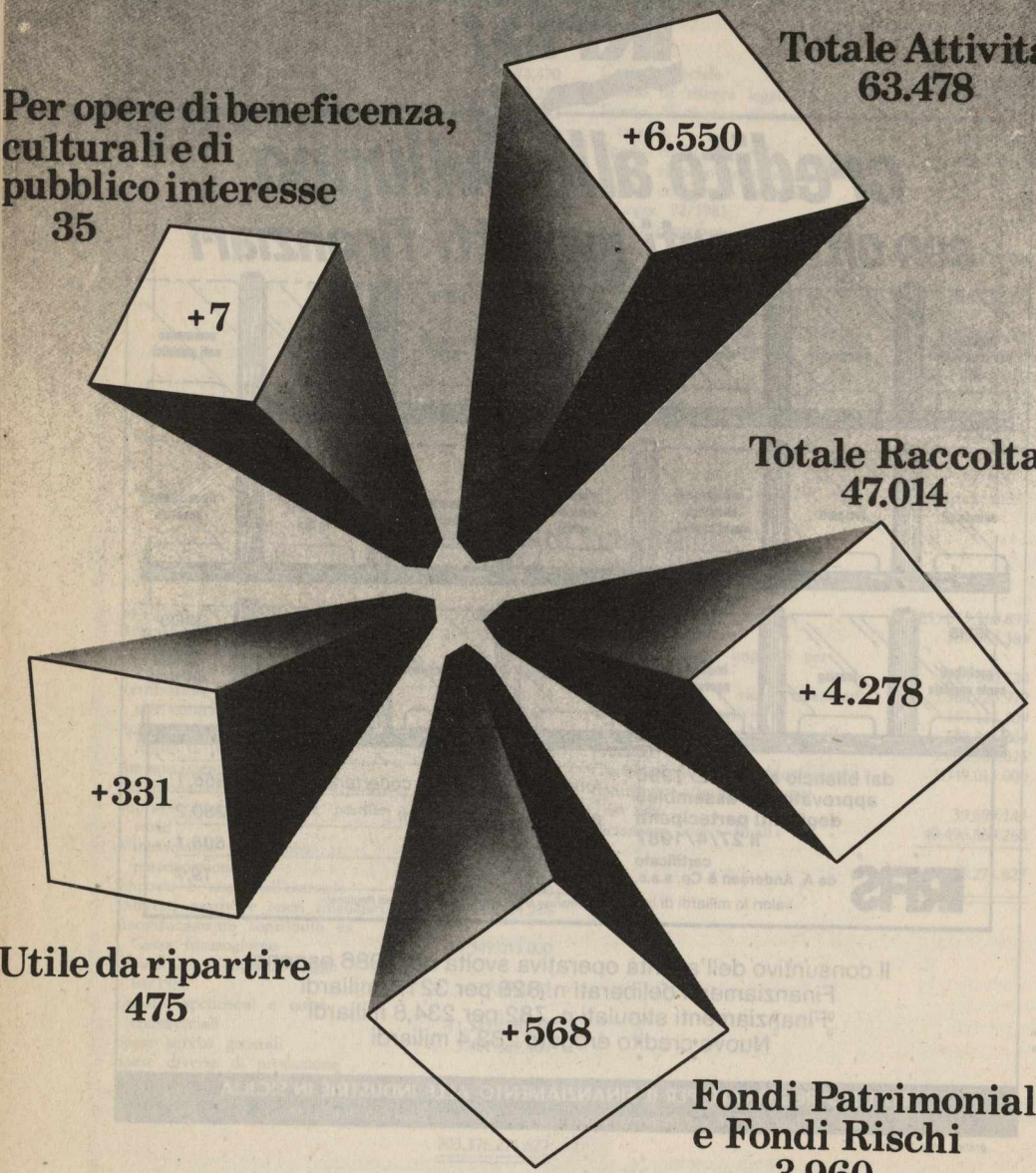
RENDICONTO ECONOMICO

PERDITE		PROFITTI	
Esistenze merci iniziali	39.061.295.454	Ricavi	253.035.768.893
Acquisti merci	108.553.528.165	Accessori fatturato	367.364.383
Prestazioni di servizi di produzione	27.228.976.910	Incrementi degli impianti per lavori interni	215.040.720
Retribuzioni del personale e relativi contributi	56.460.869.121	Interessi attivi e ricavi finanziari	3.368.226.972
Accantonamento al fondo trattamento di fine rapporto	3.729.864.864	Sopravvenienze attive	357.117.309
Ammortamenti	15.023.875.098	Dividendo da società controllata	158.868.864
Accantonamento rischi su crediti	324.512.575	Proventi diversi	3.788.303.073
Sopravvenienze passive e perdite varie	2.858.455.979	Contributo ex Cassa Mezzogiorno	1.549.013.000
Minusvalenza valutazione partecipazione		Contributo c/impianti Legge 64/1986	39.699.145
Imposte e tasse dell'esercizio	2.600.000.000	Rimanenze merci finali	40.496.869.268
Interessi passivi e oneri finanziari	13.449.114.918		303.376.271.627
Accantonamento contributo ex Cassa Mezzogiorno	1.549.013.000		
Contributo c/impianti Legge 64/1986	39.699.145		
Imballi, spedizioni e oneri commerciali	11.542.120.131		
Spese servizi generali	3.407.609.486		
Spese diverse di produzione e d'esercizio	13.769.515.604		
Utile netto	3.777.821.177		
	303.376.271.627		

L'Assemblea degli Azionisti ha deliberato di ripartire l'utile netto come segue: 5% al fondo riserva legale, L. 3.500.000.000 agli Azionisti in ragione di L. 1.750 per azione, e le rimanenti L. 88.930.118 al fondo riserva straordinaria.

BILANCIO 1986

in miliardi di lire



SANPAOLO

ISTITUTO BANCARIO
SAN PAOLO DI TORINO

ISTITUTO CENTRALE DELLE BANCHE POPOLARI ITALIANE

SOCIETÀ PER AZIONI

CAPITALE SOCIALE E RISERVE AL 31 DICEMBRE 1986: L. 145.901.065.825

Direzione Generale: MILANO - Corso Europa, 18

Ufficio di Roma e Sede Sociale: ROMA - Via Donizetti, 12/a - 14

Tribunale di Roma: Registro società n. 526/41 - Fascicolo 598/41

BILANCIO 1986 (lire miliardi)

ATTIVO		PASSIVO	
Corrispondenti debitori e fondi presso l'Istituto di Emissione	3.760,7	Corrispondenti creditori e assegni circolari	4.175,2
Titoli di proprietà	472,7	Capitale sociale e riserve	145,9
Immobili	33,9	Fondi rischi, assistenza e accantonamenti	23,5
Partecipazioni	18,7	Ammortamenti	9,1
Crediti verso l'Erario	49,5	Partite varie	16,4
Altre partite	39,8	Utile netto	5,2
	4.375,3		4.375,3
Conti impegni, rischi e d'ordine	37.819,2	Conti impegni, rischi e d'ordine	37.819,2
	42.194,5		42.194,5

Il 2 maggio 1987 ha avuto luogo in Roma, presso la sede sociale dell'Istituto, l'assemblea ordinaria degli Organismi associati (Banche Popolari ed Istituzioni della Categoria) che ha approvato il bilancio dell'esercizio 1986, chiusosi con un utile netto da ripartire – dopo l'assegnazione alla « riserva disponibile » di Lire 18 miliardi – di Lire 5,2 miliardi.

A valere sull'utile di cui sopra l'assemblea ha deliberato:
– la distribuzione di un dividendo del 25% alle n. 8.287.060 azioni costituenti il capitale sociale;
– l'attribuzione alla « Riserva legale » di L. 3,5 miliardi, così aumentata a L. 17,5 miliardi;
– ulteriori assegnazioni, ivi compresa la consueta destinazione di una quota ad incremento del « Fondo assistenza Banche Popolari ».

Nel corso dell'assemblea si è preso atto con compiacimento del programma volto a realizzare una più incisiva presenza, unitamente ad una pluralità di Banche Popolari, nella compagine azionaria della Società partecipata ISTITUTO ITALIANO DI CREDITO FONDIARIO, che affianca le Associate sull'intero territorio nazionale per finanziare l'edilizia, la proprietà fondiaria e le opere pubbliche.

Gli organi sociali dell'Istpopolbanche, dopo le nomine deliberate il 2 maggio 1987, risultano così composti:

CONSIGLIO DI AMMINISTRAZIONE

Presidente: Comm. Dott. Corrado DANIELI; Vice Presidenti: Comm. Rag. Giovanbattista FIORENTINI - Gr. Uff. Avv. Arturo SCHENA; Consiglieri: Gr. Uff. Dott. Rag. Vittorio AULENTI - Comm. Geom. Luigi BACCI - Cav. del Lav. Gr. Uff. Dott. Giancarlo BELLEMO - Gr. Uff. Dott. Rag. Franco CARNIGLIA - On. Cav. di Gr. Cr. Prof. Avv. Francesco COLITTO - Cav. Avv. Marcello DE FILIPPIS - Gr. Uff. Rag. Gianfrancesco DEL NERO - Comm. Dott. Elio FARALLI - Comm. Dott. Josef FROSCHMAYR - Comm. Dott. Rag. Andrea GIBELLINI - Cav. Uff. Dott. Mario GIGLIO - Marchese Dott. Franco LUCIFERO - Comm. Dott. Angelo MAZZA - Gr. Uff. Rag. Guido MONZANI - Dott. Giuseppe NARDINI - Comm. Pietro NIADA - Dott. Piermaria PACCHIONI - Comm. Rag. Luciano PASTORELLO - Cav. di Gr. Cr. Dott. Giuseppe PEDRONI - Comm. Dott. Renato SANTARELLI - Cav. di Gr. Cr. Prof. Piero SCHLESINGER - Cav. Rag. Antonio TEDESCO - Cav. del Lav. Gr. Cr. Rag. Lino VENINI - Comm. Dott. Giuseppe VIGORELLI. Segretario del Consiglio: Dott. Franco DE MAJO.

COLLEGIO SINDACALE

Presidente: Comm. Rag. Ottavio FONTANESI; Sindaci effettivi: Comm. Rag. Pietro AGNOLUZZI - Dott. Domenico MONTOSCHI - Rag. Adriano MORA - Cav. del Lav. Dott. Matteo PITANZA; Sindaci supplenti: Cav. Dott. Antonio DANESE - Cav. Uff. Rag. Giuliano EMPIRONI.

DIREZIONE GENERALE

Direttore Generale: Dott. Franco DE MAJO; Vice Direttore Generale: Dott. Antonio CITARELLA.

ISTITUTO CENTRALE DI BANCHE E BANCHIERI

Sede Sociale: Milano, Via A. Boito, 8 - Direzione e Uffici: Milano, Corso Monforte, 34

BILANCIO AL 31 DICEMBRE 1986

ATTIVO

	Lire	Lire
Cassa		836.708.275
Depositi e conti correnti con istituzioni creditizie:		
– controllate	2.639.758.147	
– altre	2.214.892.390.907	
		2.217.532.149.054
Finanziamenti ad istituzioni creditizie		119.421.636.135
Titoli di proprietà		926.760.221.250
Partecipazioni		86.980.703.972
Azioni proprie		333.432.204
Crediti verso clienti:		
– società controllate	1.934.867.035	
– società collegate	42.155.713.624	
– altri	14.688.810.118	
		58.779.390.777
Effetti all'incasso		543.633.913
Crediti verso l'erario		1.165.199.020
Altri crediti		30.785.828.396
Immobili		20.000.000.000
Impianti e macchine		8.712.970.406
Mobili e arredi		1.308.041.702
Costi pluriennali		138.602.400
Ratei attivi		51.337.167.383
Risconti attivi		48.693.013
Totale dell'attivo		3.524.684.377.900
Conti impegni e rischi		267.974.688.141
Conti d'ordine:		
– Depositari titoli	8.905.738.405.784	
– Titoli e valori in deposito a cauzione	159.602.768.000	
– Titoli e valori in deposito a garanzia	131.899.732.951	
– Titoli e valori in deposito a custodia	7.796.163.399.524	
– Operazioni attive per conto associate	3.000.000.000	
– Depositari moduli assegni circolari in bianco	1.645.006.600.000	
		18.641.410.906.259
Totale generale		22.434.069.972.300

PASSIVO

	Lire	Lire
Depositi e conti correnti di istituzioni creditizie:		
– collegate	924.173.848	
– altre	3.128.089.625.263	
		3.129.013.799.111
Depositi e conti correnti di clienti:		
– società controllate	31.318.891	
– società collegate	259.140.748	
– altri	31.962.657.170	
		32.253.116.809
Assegni circolari		128.397.317.777
Anticipazioni passive con l'Istituto di Emissione		9.355.360.047
Cedenti effetti all'incasso		543.633.915
Debiti verso l'erario		4.424.124.899
Altri debiti		13.260.582.273
Ratei passivi		2.016.157.418
Risconti passivi		85.121.013
Fondo imposte e tasse		9.045.986.000
Fondo trattamento di fine rapporto del personale		3.529.710.218
Fondi di ammortamento:		
– Immobili	5.738.897.827	
– Impianti e macchine	6.306.176.977	
– Mobili ed arredi	1.009.878.595	
		13.054.953.399
Fondo rischi su crediti		1.217.000.000
Fondo oneri diversi		3.000.000.000
Patrimonio:		
– Capitale sociale	60.000.000.000	
– Riserva legale	18.092.942.723	
– Riserva straordinaria	55.866.856.258	
– Riserva speciale	8.170.180.000	
– Riserva rivalutazione monetaria L. 1983/72	8.800.000.000	
– Riserva indisponibile ex art. 2357 ter c.c.	333.432.204	
– Fondo acquisto azioni proprie	166.567.796	
– Fondo plusvalenze da reinvest. L. 1983/169	2.942.787.327	
– Fondo oscillazioni titoli	500.000.000	
		154.872.766.308
Utile dell'esercizio		20.254.748.713
Totale del passivo e del patrimonio		3.524.684.377.900
Conti impegni e rischi		267.974.688.141
Conti d'ordine:		
– Titoli presso terzi	8.905.738.405.784	
– Depositanti titoli e valori a cauzione	159.602.768.000	
– Depositanti titoli e valori a garanzia	131.899.732.951	
– Depositanti titoli e valori a custodia	7.796.163.399.524	
– Associate per operazioni attive	3.000.000.000	
– Moduli assegni circolari in bianco presso terzi	1.645.006.600.000	
		18.641.410.906.259
Totale generale		22.434.069.972.300

La tecnologia Tecnomasio parla le lingue dei cinque continenti

.....infatti quando per importanti realizzazioni di produzione e trasporto di energia, di sistemi e mezzi di trazione, di impiantistica e di elettronica industriale si ricercano "partners" in grado di fornire i sistemi tecnologicamente più avanzati, il TIBB è da sempre uno dei più accreditati punti di riferimento sui mercati nazionali ed internazionali. Questa posizione di grande prestigio è favorita dall'appartenenza del TIBB al gruppo BBC Brown Boveri dal quale può attingere tutto il know-how necessario. Il gruppo opera in 140 Paesi, fattura 12 000 miliardi, impiega oltre 90 000 persone ed investe in ricerca e sviluppo il 7,5% del fatturato. Questo consistente e continuo investimento di risorse proietta il TIBB a livello di leadership nell'area della tecnologia industriale più avanzata e lo pone in posizione di avanguardia. Per questo al TIBB vengono riconosciute capacità tali da farlo considerare una delle poche imprese in grado di fornire i sistemi, i prodotti ed i servizi tecnologicamente più sofisticati non solo in Italia ma in tutti i Paesi del mondo.

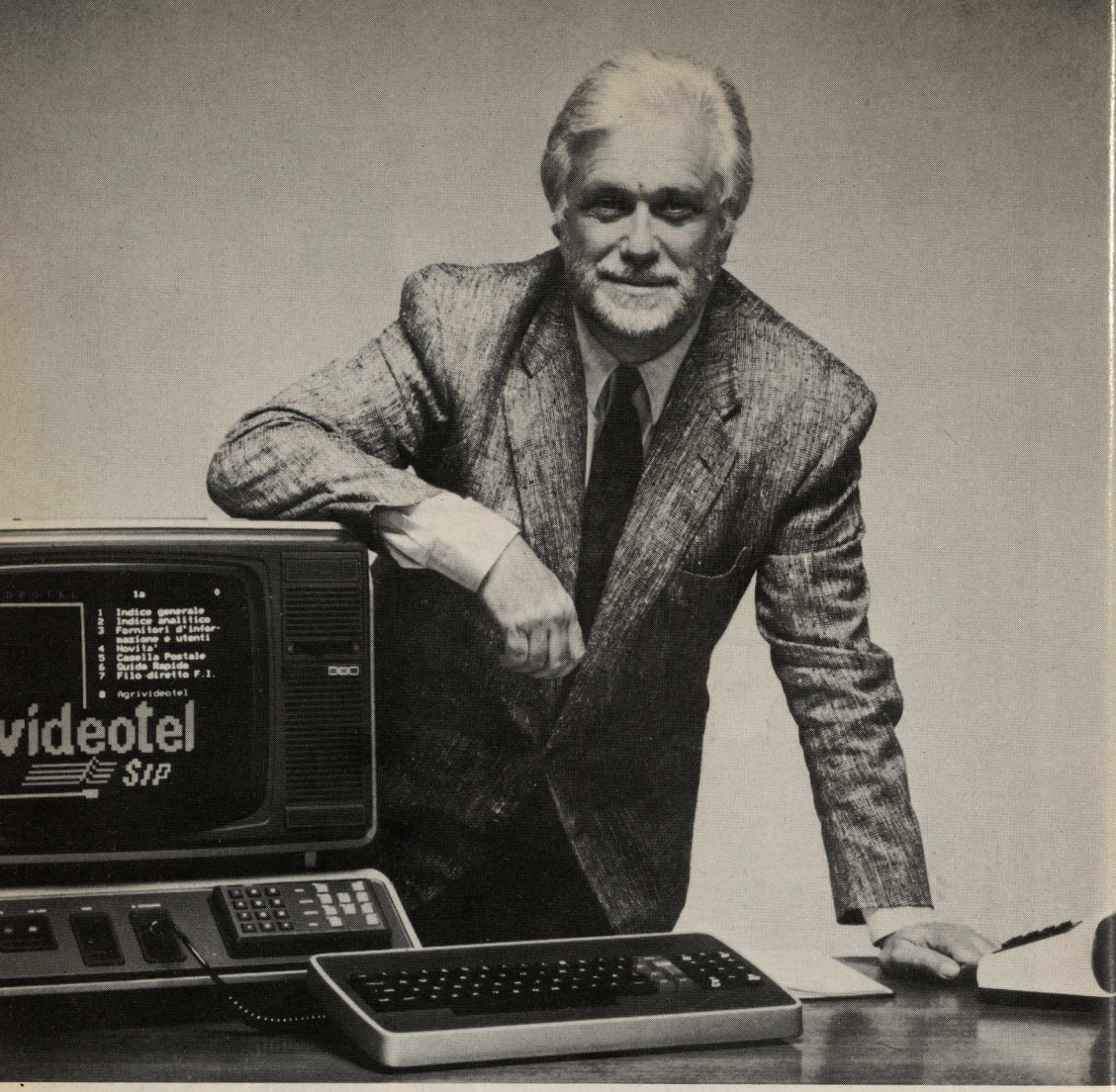
Ecco perchè il TIBB parla le lingue dei cinque continenti.

TIBB

DINAMICA, COME SISTEMA

Tecnomasio Italiano Brown Boveri

S.p.A. - P.le Lodi, 3 - 20137 Milano - Tel. (02) 5797.1 - Tlx 310153



SIP

O IRI-STET

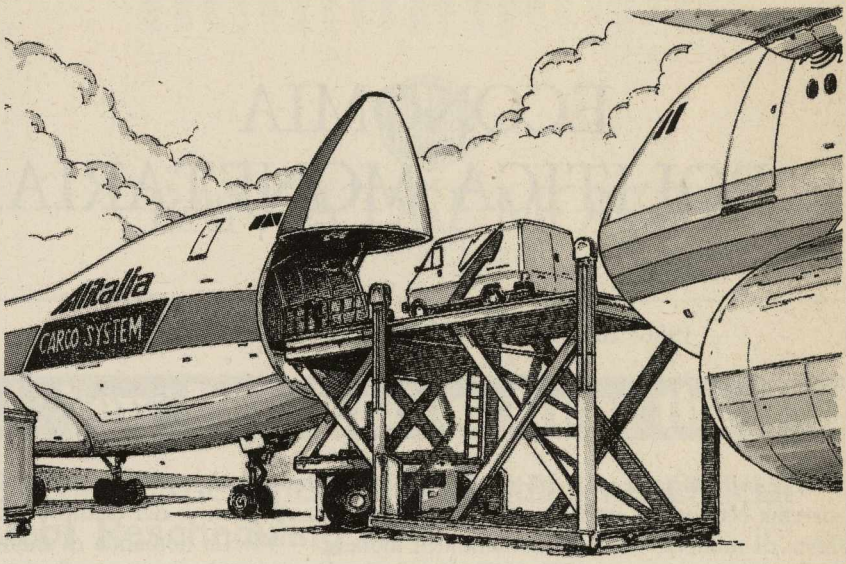
VIDEOTEL SIP: la nuova filosofia del lavoro.

La differenza tra ricevere dati e lavorare con i dati.

"Tutto scorre" diceva un filosofo greco. Anche i sistemi di telecomunicazione, che hanno subito una notevole evoluzione per migliorare sempre più la qualità del lavoro. VIDEOTEL è un esempio di questa filosofia. Un televisore opportunamente predisposto o un terminale specializzato ma anche il vostro home o personal computer con un semplice collegamento della linea telefonica al Centro Videotel vi consente di inviare e ricevere dati e informazioni, visualizzati sotto forma di pagine sul vostro monitor. VIDEOTEL non solo fornisce servizi e informazioni in tempo reale, selezionati per argomenti, aggiornati costantemente e disponibili 24 ore su 24, ma vi consente anche di interrogare la vostra banca e compiere tutta una serie di operazioni, chiedere consulenze finanziarie e personalizzate, ricevere e registrare programmi per il vostro computer e richiedere tanti altri servizi e informazioni indispensabili per lavorare meglio ed essere più informati. VIDEOTEL: il nuovo servizio creato dalla SIP per portare i vantaggi dell'informatica anche dove c'è solo un

LA BANCA
PER LA MODERNA ATTIVITA' D'IMPRESA

Una risposta tecnica della Cassa di Risparmio ad ogni esigenza import-export



copertura rischi di cambio • assistenza per l'accesso ai finanziamenti agevolati e all'assicurazione all'esportazione • assistenza per la partecipazione a gare d'appalto internazionali • ricerca controparti commerciali pagamenti e incassi da e per l'estero anticipazione in lire o valuta • sconto effetti sull'estero apercredito documentarie • anticipazioni su merci • fidejussioni e garanzie

CASSA DI RISPARMIO DI VERONA VICENZA E BELLUNO

Il piacere d'esserne clienti

EDIZIONI CEDAM - PADOVA

Recentissima:

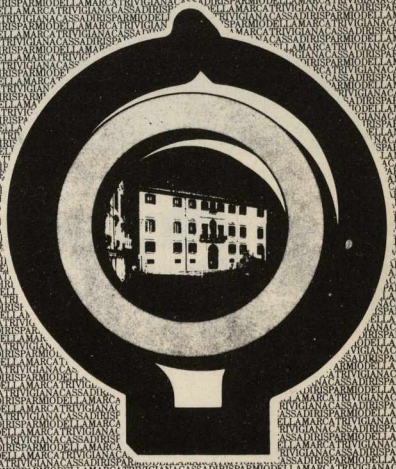
MARIO ARCELLI

ECONOMIA E POLITICA MONETARIA

1986. In 8°, di pp. XIV-568. L. 32.000

41 sportelli
in Provincia di Treviso

CASSA DI RISPARMIO DELLA MARCA TRIVIGIANA



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DMB&B

WORK IN PROGRESS

STIAMO LAVORANDO IN PROGRAMMI SPAZIALI AVANZATI, IL PIÙ IMPORTANTE DEI QUALI È IL COLUMBUS, LA STAZIONE SPAZIALE EUROPEA DEGLI ANNI '90.

STIAMO LAVORANDO ALLA REALIZZAZIONE DEL CENTRO DI CONTROLLO IN ORBITA DELL'OLYMPUS, IL SATELLITE EUROPEO PER LA DIFFUSIONE TELEVISIVA DIRETTA.

DAL CENTRO SPAZIALE DEL FUCINO E DALLA STAZIONE DEL LARIO, FORNIAMO QUOTIDIANAMENTE IN ITALIA COLLEGAMENTI VIA SATELLITE PER TELEFONIA E TELEVISIONE, PER TRASMISSIONI DATI E PER COMUNICAZIONI MOBILI MARITTIME.

SIAMO PRONTI A FORNIRE NUOVI SERVIZI DI GRANDE UTILITÀ PUBBLICA E PRIVATA: PER LA PROTEZIONE CIVILE, PER LE COMUNICAZIONI D'AFFARI, PER LA DIFESA DELL'AMBIENTE.

telespazio
COMUNICAZIONI SPAZIALI.

GRUPPO IRI-STET